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UNITED STATES DEPARTMENT OF AGRICULTURE

DEPARTMENT BULLETIN No. 1414

Washington, D. C. July, 1926

MANAGEMENT PROBLEMS OF COOPERATIVE ASSOCIATIONS MARKETING FRUITS AND VEGETABLES

By

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WASHINGTON
GOVERNMENT PRINTING OFFICE
1926

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By A. W. McKay, *Marketing Economist*, and W. J. Kuhrt, *Assistant Marketing Economist, Bureau of Agricultural Economics*

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The value of fruits and vegetables marketed by cooperative associations increased approximately 170 per cent between 1915 and 1924, or from $110,000,000 to $300,000,000. The relative prices for fruits and vegetables during these years (see Table 1) indicate an increase in the quantity of products handled by associations of a little more than 80 per cent.

During the same period it has become increasingly difficult to market fruits and vegetables at prices satisfactory to the growers. Table 1 shows that increases in the prices of other commodities have been greater than for fruits and vegetables. Consequently, the position of the growers is relatively less favorable than during the pre-war years. Certain producers are operating under more unfavorable conditions than is indicated by the index numbers for the

[1] The discussion in this bulletin refers particularly to the problems of the smaller associations handling fruits and vegetables.

fruit and vegetable group; for example, the grapefruit growers who received, in 1924, but 44 per cent of the pre-war price, and the potato growers, who received, during the 1924–25 season, prices varying from 92 to 104 per cent of the base price, that is, the average price from August, 1909, to July, 1914.

TABLE 1.—*Index numbers of wholesale prices by groups of commodities and by years, 1910 to 1914=100* [1]

Year	Fruits [2] and vegetables	Foods	Cloths and clothing	Fuel and lighting	Metals, etc.	Building materials	House furnishing goods	Miscellaneous	All commodities
1910	91	100.4	101.8	90.3	100.5	100.4	99.1	133.0	102.7
1911	106	95.8	97.7	88.4	95.4	100.5	96.7	97.8	94.7
1912	110	103.3	99.1	97.3	105.7	101.4	97.2	97.0	100.9
1913	92	99.3	101.9	116.0	107.2	103.0	103.4	88.0	101.8
1914	100	101.1	99.6	107.8	91.0	94.7	103.4	84.0	99.9
1915	83	103.8	100.2	102.0	106.4	96.8	103.2	83.4	102.6
1916	123	120.4	129.5	146.6	173.4	123.9	109.9	106.3	129.0
1917	202	166.0	178.7	195.9	247.6	161.7	125.4	130.5	180.3
1918	162	187.1	232.4	197.0	200.5	177.1	157.7	137.6	197.7
1919	189	205.2	257.8	209.4	173.7	207.4	189.9	153.8	210.1
1920	249	218.2	301.2	280.0	205.5	272.0	262.5	172.1	230.2
1921	148	143.0	183.0	231.3	138.3	170.3	201.8	112.8	149.6
1922	152	137.4	184.3	252.3	130.8	173.4	181.8	103.4	151.5
1923	136	142.8	204.0	214.7	154.8	194.7	189.3	108.0	156.5
1924	124	143.2	194.6	197.6	144.2	180.3	178.7	102.7	152.4
1925:									
January	122	158.7	194.8	194.8	146.1	184.7	178.5	111.9	162.9
February	131	155.8	194.7	205.9	145.3	188.3	178.4	109.6	163.5
March	138	157.8	194.4	202.3	143.3	183.2	175.9	110.4	163.9
April	146	152.9	193.6	196.1	137.9	179.6	176.3	113.4	159.0
May	162	152.1	192.0	195.1	136.3	178.8	176.3	115.6	158.0
June	184	154.2	191.8	200.2	135.2	175.8	175.7	121.3	160.2
July	178	156.2	192.5	199.7	135.5—	175.2	175.0	126.2	162.8
August	178	158.1	193.4	197.2	136.4	177.5	175.0	121.4	163.4
September	142	159.2	193.0	196.4	136.3	179.3	173.3	118.8	162.6
October	152	156.5+	193.2	199.2	137.1	179.1	173.6	121.5—	160.4

[1] Supplement to Agri. Situation, June, 1925.
[2] Farm prices.

Cooperative marketing, despite its demonstrated advantages, has not been sufficient to overcome the unfavorable conditions that have existed since 1920. Two fundamental factors have served to keep fruit and vegetable prices at low levels, as compared with other commodities. These, in order of their probable importance, are: (1) Production in excess of what the market will absorb at prices profitable to the producers (see Table 2), and (2) curtailment of the purchasing power of the consumers, to a greater or less extent, expressed perhaps by the purchase of greater quantities of more staple foods at the expense of fruits and vegetables.

In discussing the adequacy or inadequacy of marketing services, this bulletin deals particularly with the services offered by cooperative associations. There is a wide variation in the completeness and efficiency of these services, just as there is in the services of noncooperative agencies. There is little question of the value of the services rendered by large, well-established associations and exchanges. Many small local associations, however, fail to realize their opportunities to improve marketing conditions.

In part, the general attitude of the producers toward their organizations has retarded the development of the cooperative market-

ing of fruits and vegetables. As long as the associations are judged altogether by the price they are able to obtain for the current crop, their existence, as a class, will be precarious and the services they can render will be limited. In some cases, the financial stability of the associations is threatened and their reserves depleted through the anxiety of their directors to give the members a higher price than that paid by private dealers who handle the same commodity.

TABLE 2.—*Total carload shipments of fruits and vegetables for the calendar years, 1920 to 1924* [1]

Commodity	1920	1921	1922	1923	1924 [2]
Fruits:					
Apples	109,112	98,158	103,405	134,298	112,515
Apples, dried	829	1,324	1,393	1,296	1,595
Cantaloupes	22,953	25,815	29,930	24,771	28,955
Cherries	1,730	1,489	2,261	2,501	2,050
Citrus fruit—					
Grapefruit	11,366	12,312	14,042	19,279	19,415
Lemons	9,698	11,907	9,752	9,243	13,459
Oranges and tangerines	50,560	66,394	47,124	77,181	75,685
Cranberries	1,555	1,359	2,009	2,066	2,112
Grapes	41,309	37,816	59,914	65,330	68,345
Peaches	28,179	27,334	38,405	33,525	39,078
Peaches, dried	860	1,152	1,219	754	1,561
Pears	15,919	13,160	20,188	18,537	15,776
Plums and prunes	5,001	5,765	5,211	6,800	4,010
Prunes, dried	2,777	6,372	6,046	4,430	7,664
Strawberries	7,207	10,857	18,761	17,804	18,782
Watermelons	37,314	45,749	47,625	33,081	45,467
Total, fruits	346,369	366,963	407,285	450,896	456,469
Vegetables:					
Asparagus	1,226	902	767	785	1,235
Beans, dry	8,981	12,955	11,761	12,990	15,903
Beans, string	1,473	1,600	2,631	3,328	4,585
Cabbage	32,687	32,289	40,078	37,262	40,713
Carrots	1,630	1,773	2,010	2,142	3,082
Cauliflower	3,527	3,869	3,991	4,695	4,498
Celery	9,729	12,635	14,151	16,909	18,220
Cucumbers	3,689	4,832	6,349	5,700	7,168
Eggplant	236	321	272	271	211
Lettuce	13,788	18,738	22,240	29,485	30,794
Mixed vegetables	14,848	14,803	19,843	23,913	28,260
Onions	27,469	23,561	27,562	27,189	31,237
Peppers	2,700	2,334	2,321	2,407	2,260
Potatoes	185,176	218,001	245,407	241,554	249,821
Spinach	3,089	4,954	5,205	7,747	7,494
Sweet potatoes	16,032	18,745	20,715	19,107	14,308
Tomatoes	18,352	17,425	26,723	24,006	26,126
Turnips and rutabagas	940	744	854	926	1,323
Total, vegetables	345,572	390,481	452,880	460,416	487,238

[1] From the Fruit and Vegetable Division, Bureau of Agricultural Economics.
[2] Subject to revision.

The members of cooperative associations, naturally, expect their organizations to obtain the full market price for their products and to render marketing service economically. At the same time, a long-time view of production and marketing problems shows the necessity of establishing well-financed, efficient agencies which can handle the crops of succeeding years effectively. This means investment by the members of a part of their returns during the early years of the organization. It means also expenditures by the associations to strengthen their marketing services, the value of which can not be measured immediately in dollars and cents.

A long-time view of cooperation will consider the associations as service agencies of the growers, concerned with stabilized production, the production of suitable varieties, standardization, distribu-

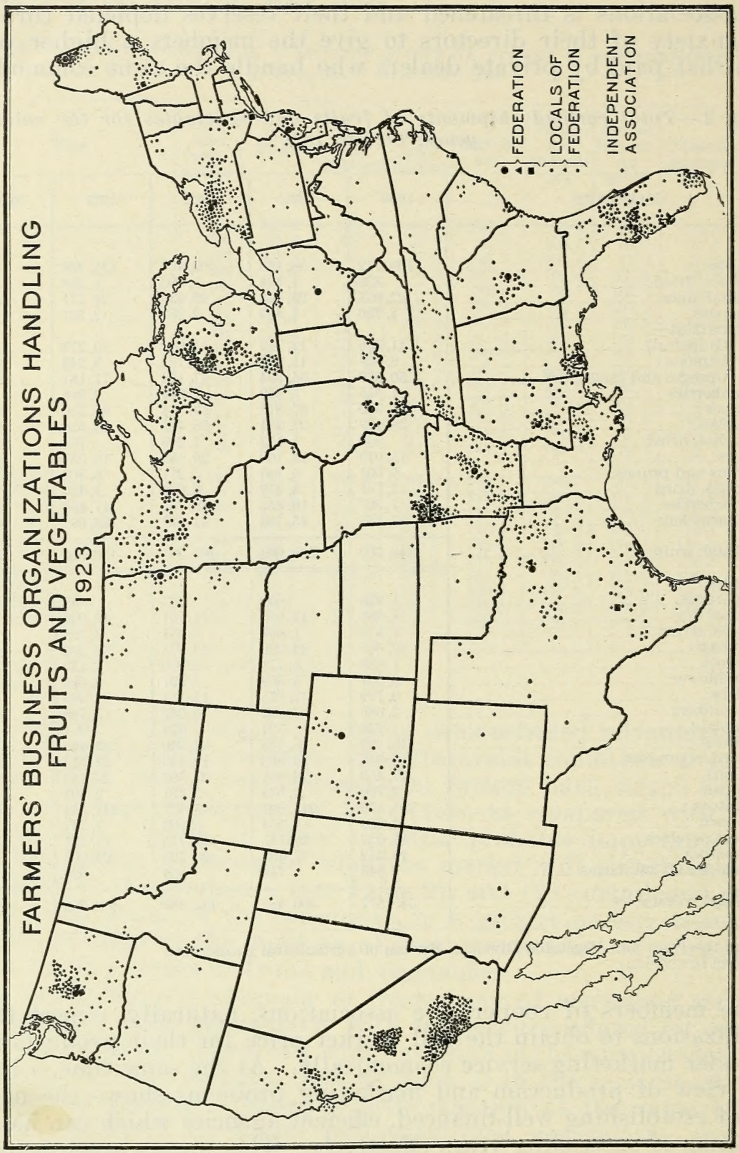

FIG. 1.—Location of the fruit and vegetable associations reporting to the Department of Agriculture for the 1925 season

tion, and the other factors which enter into the production and marketing of fruits and vegetables. The organization and operation of associations on a crop-to-crop basis is a short-sighted policy

which handicaps the organizations and nullifies many of the services they might otherwise render.

In order to arrive at an understanding of the problems which the managers and officers of cooperative associations consider most acute, a survey of the fruit and vegetable organizations was made by questionnaire and by personal interviews. Returns were received from 1,290 associations, whose location is shown by Figure 1.

Many of these associations had been organized comparatively recently. Over half the organizations that reported the year in which they were organized had been in business for less than 5 years (see Table 3). About 27 per cent had been operating for 10 years, or more; approximately 14 per cent for 15 years, or longer; and a little over 8 per cent for 20 years or longer. Although there is a substantial nucleus of well-established organizations, the majority are of comparatively recent origin.

No associations were included in this study unless at least 50 per cent of their members were active producers. A little over 86 per cent of the associations reporting stated that all members were farmers, whereas approximately 14 per cent had members who were not farmers. The average membership of all associations reporting on this point was approximately 156, making the total membership of 1,290 organizations from which records were obtained in excess of 200,000.

Approximately 49 per cent of the organizations reporting were engaged in marketing fruit, a little over 24 per cent were marketing vegetables, and approximately 27 per cent handle both fruits and vegetables. In volume of business, fruit greatly exceeded vegetables both in number of cars and in value. A comparison of the two products is shown in Table 5.

TABLE 3.—*Number of years 616 fruit and vegetable associations have been active, and percentage of total each group represents*

Years active	Number	Percentage	Cumulative per cent	Years active	Number	Percentage	Cumulative per cent
1 to 5	313	50.8	50.8	30 to 35	10	1.6	99.6
5 to 10	134	21.7	72.5	35 to 40	1	.2	99.8
10 to 15	83	13.4	86.0	Over 45	1	.2	100.0
15 to 20	35	5.7	91.7				
20 to 25	24	3.9	95.6	Total	616	100.0	
25 to 30	15	2.4	98.0				

Reports from 944 associations show that 725 or 76.8 per cent were incorporated, whereas the balance, 219 or 23.2 per cent, were not. Fruit and vegetable marketing associations are incorporated with capital stock or as nonstock, or membership, organizations. Of the associations reporting, 42.5 per cent were organized with capital stock and 57.5 per cent were nonstock organizations. The features of these two forms of organizations are generally well known.

Fruit and vegetable associations, as shown by the reports received, are more commonly organized on the nonstock plan. Membership in associations of this type is conditional on the payment of a mem-

bership fee. In many cases the prospective member must also sign a crop contract. Control of the organization is based on each member having one vote, and investments are frequently financed by deductions from current business.

PROBLEMS OF FRUIT AND VEGETABLE ASSOCIATIONS

Interviews with the managers of many fruit and vegetable organizations have developed that, according to the summarized opinion of these managers, there were seven principal factors that operated to reduce the effectiveness of the associations. In all associations, studied in detail, one or more of these difficulties was present to a greater or less degree. The seven factors most frequently mentioned were as follows:

1. The volume of business handled by the association is not sufficient to stabilize the market.
2. Too many varieties are produced, including many varieties difficult to sell or of poor keeping quality.
3. Poor packing, careless handling, inadequate storage facilities, a lack of grade standards, and other difficulties are encountered incidental to the preparation of the products for market.
4. The association is unable to control the delivery of the product or to specify the time of delivery.
5. Sales service is inefficient. Small markets are not supplied regularly and directly, while the large markets are often oversupplied. Too many shipments are moved unsold or consigned to commission merchants or auctions.
6. Retailing methods and margins restrict the consumption of fruits and vegetables.
7. Car shortages, delays in transit, and other difficulties incident to transportation are encountered.

The solution of these difficulties, which loom largest in the minds of those entrusted with the management of the marketing associations, should result in higher prices to the producers, primarily because of the savings that may be effected, and because the desirability of the product would be enhanced and consumption stimulated. The cooperative associations have brought about many improvements in the grading and packing of fruits and vegetables. They have influenced for the better the methods of distributing and selling perishable products. They have developed by-products for the utilization of products undesirable in the fresh state; and the large fruit organizations particularly have stimulated consumption by advertising and service to retail dealers.

The difficulties outlined above indicate, however, that many problems essentially local in character remain to be solved. The order in which they are listed and are here discussed indicates approximately the importance assigned to them by the managers interviewed.

VOLUME OF BUSINESS

The difficulty most common in fruit and vegetable organizations is that the business is too small. The managers and directors gen-

erally feel that if the association handled a larger proportion of the local crop, it would be possible to reduce operating costs and stabilize the market for the products the association has to sell.

The volume of business handled by an association often determines its success or failure. A study of organizations that have gone out of business shows that "insufficient volume of business" was the sole or was a contributing cause of failure in almost half of the cases reported. In general, the business handled by an association must be large enough to permit the performance of the services required at a per unit marketing cost comparable to that of private dealers. Table 4 shows that the business of many fruit and vegetable associations permits only a small expenditure for marketing services.

TABLE 4.—*Percentage of fruit and vegetable marketing organizations in the various volume of business classifications*

[Based on reports from 585 associations]

Group	Percentage in each group	Group	Percentage in each group
$20,000 and under	25.5	$160,001 to $180,000	1.9
$20,001 to $40,000	12.1	$180,001 to $200,000	1.7
$40,001 to $60,000	8.5	$200,001 to $300,000	8.2
$60,001 to $80,000	6.7	$300,001 to $400,000	3.4
$80,001 to $100,000	6.3	$400,001 to $500,000	4.6
$100,001 to $120,000	3.1	$500,001 to $1,000,000	5.1
$120,001 to $140,000	4.1	Over $1,000,000	4.5
$140,001 to $160,000	4.3		

The information at hand indicates that a larger percentage of fruit and vegetable associations are doing a smaller volume of business than are either the cooperative creameries or the grain organizations. It is reasonable to conclude that there is some relationship between the volume of business handled by a cooperative association and the probable life of the organization.

Local fruit and vegetable associations that handle but one crop generally have an insufficient volume of business. This handicap can be minimized in some cases by handling a larger variety of fruit and vegetable products. The condition is being corrected slowly by grouping small local organizations in federations, or by forming large associations that cover sufficient territory to assure an adequate volume of business under normal conditions. The business of all fruit and vegetable organizations that gave information on this point, arranged by commodities, is shown in Table 5, and Figure 2 shows the business of fruit and vegetable organizations arranged by geographical groups.

Over a period of years, successful cooperatives are increasing their volume of business. In 1913, 67 fruit and vegetable organizations reported that they marketed products valued at $16,769,000. The same organizations reported their total 1922–23 business at $36,526,000, showing an increase of 117.8 per cent in nine years.

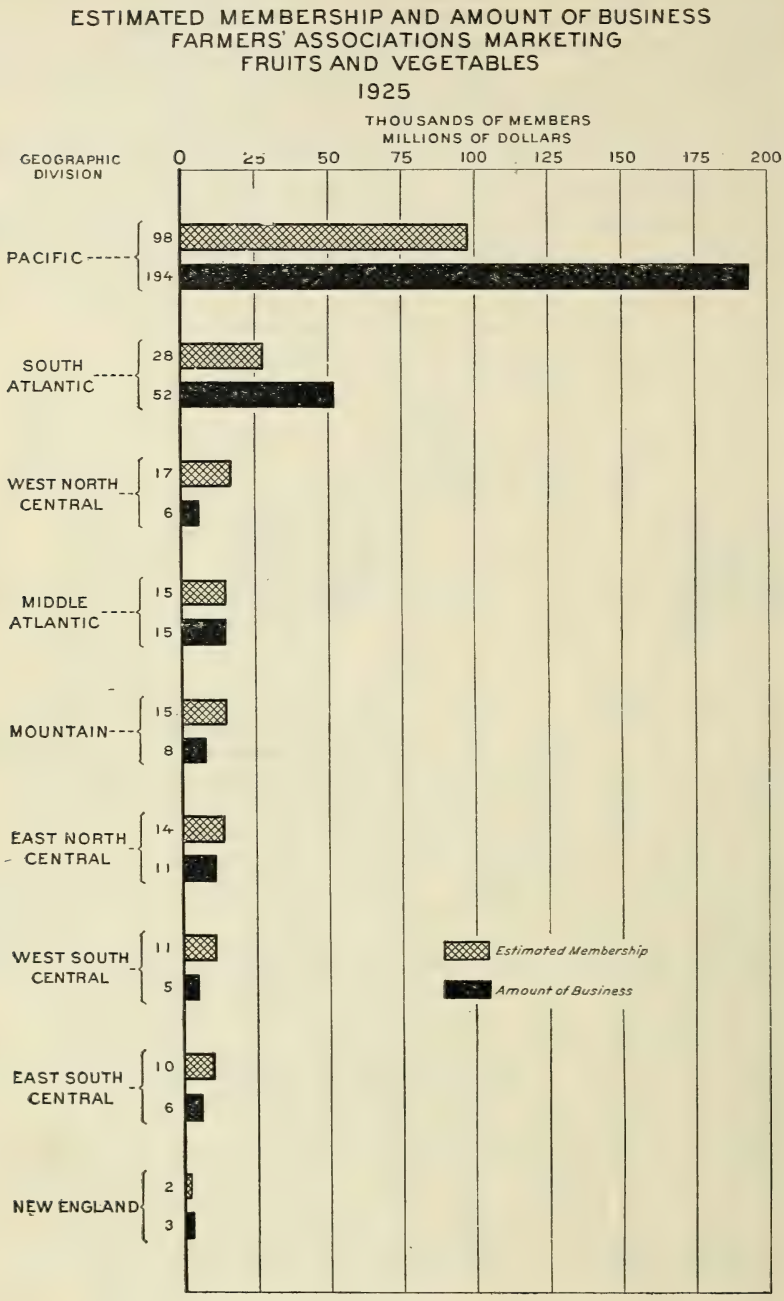

FIG. 2.—The Pacific Coast States exceed all other sections of the country combined in the value of the fruits and vegetables handled by cooperative associations

TABLE 5.—*The volume of business of 1,141 cooperative associations in 1922, grouped according to products marketed*

Fruits			Vegetables		
Commodity	Cars	Value	Commodity	Cars	Value
Citrus fruits	43,620	$69,202,327	Potatoes	19,943	$11,061,852
Grapes and raisins	15,889	42,510,669	Lima beans	1,262	3,800,000
Apples	16,099	13,794,341	Tomatoes	4,440	2,993,999
Plums and prunes (all)	3,195	12,453,720	Sweet potatoes	5,149	1,792,204
Peaches	6,025	9,346,380	Watermelons	2,637	287,525
Strawberries	5,987	6,169,964	Lettuce	1,821	1,048,920
Cranberries	1,685	3,906,510	Celery	1,162	759,502
Apricots	391	3,083,932	Onions	870	435,597
Pears	2,829	2,431,286	Cucumbers	518	347,807
Figs	190	1,130,000	Asparagus	190	321,702
Raspberries (all)	383	672,346	Cabbage	1,216	314,193
Olives and olive oil	111	579,260	Rhubarb	212	250,004
Cherries	199	499,354	Peas	312	241,944
Logan blackberries	353	312,327	Cantaloupes	503	209,879
Blackberries	313	268,851	Peppers	150	156,000
Currants	121	93,918	Broccoli	173	119,030
Pineapples	100	85,000	Green beans	237	113,796
Quinces	25	13,020	Escarole	53	53,000
Gooseberries	1	2,230	Spinach	103	31,281
			Squash	22	15,000
			Garlic	5	14,000
			Eggplant	13	13,000
			Romaine	11	11,000
			Chicory	3	3,000
			Radishes	2	2,000
			Sweet corn	2	1,000
			Turnips	8	840
			Cauliflower	2	800
Miscellaneous	10,271	15,564,576	Miscellaneous	18,925	5,104,488
Total	107,787	182,120,011	Total	59,944	29,503,363
Mixed fruit and vegetables				9,475	9,565,603
Total fruit and vegetables				177,206	221,188,977

Of the citrus fruit shipped cooperatively, 98.9 per cent was handled by 5 federations in 1922; 90.8 per cent of the grapes shipped cooperatively passed through the hands of 8 organizations; 63.7 per cent of the cooperative shipments of apples were sold through 8 large associations; and 3 associations handled 89.8 per cent of all the plums and prunes sold by cooperative organizations.

Likewise, a few large associations handled large portions of the total reported cooperative shipments of vegetables. Six potato associations handled 76.1 per cent of the total; 5 sweet potato organizations handled 95.4 per cent of the cooperative shipments of this vegetable; 84.57 per cent of the tomato tonnage sold cooperatively was handled by 7 associations; and the cooperative marketing of Lima beans was confined to one association.

The complaint of many managers, however, is that the volume of business they control is not sufficient to stabilize the market. The phrase, "stabilization of the market," is subject to various interpretations and was not always used to express the same thought. As the term is usually employed by fruit and vegetable shippers, it implies chiefly the elimination of avoidable causes of price fluctuations. The shippers, including the cooperative associations, particularly wish to avoid violent recessions in price, which may be due to a number of causes and which from the very fact that they are unforeseen are responsible for severe losses.

All marketing agencies suffer from unorganized competition. The man who sells without a knowledge of market conditions, who because of lack of knowledge ships to markets already overcrowded, or who puts an unstandardized, poorly packed product on the market, has a demoralizing effect on the market and nullifies to a greater or less degree the efforts of reliable, informed shippers. From the point of view of market stabilization, therefore, it may not be essential that an association should control a large percentage of the shipments of a certain commodity, but it is important that it should be in the hands of reliable well-informed organizations or individuals.

Stabilization of the market is occasionally used to imply an advance in prices or the maintenance of a high level of prices. The ideas behind such a use of the phrase range all the way from price fixing by the growers to the maintenance of a favorable price by offering better goods and better services. The expectation that a fruit or vegetable association can increase the price received for its members' products by withholding all or a portion from the market, or by refusing to sell except at a predetermined price, is generally doomed to disappointment. With a crop of a certain size to market under certain economic conditions, the associations can do no more than obtain the best price that the market demand warrants and render this service to their members at an economical figure. They may grade and pack the products in such a way that the cooperative brands are worth more than common stock, and they may stimulate demand by advertising and judicious distribution, but the basic price will be determined by supply and demand, and the association's quotations must be in line with this price.

TOO MANY VARIETIES

The second difficulty confronting cooperative managers is a multiplicity of little-known and undesirable varieties. The problem of "odd varieties" is common among deciduous fruit organizations and some vegetable associations. The apple growers, particularly, attempt to place on the market many varieties which are little known or which have distinct marketing defects. Pomological societies and educational institutions have encouraged in the past the introduction and trial by growers of new, often untested varieties, and are partly responsible for this situation.

Odd varieties make the task of the cooperative manager difficult and reduce returns to growers. First, the cost of packing, selling, and record keeping is made more expensive when several varieties must be handled. Secondly, these comparatively unknown varieties sell at lower prices than standard varieties. The lower price may not be due to inferior quality but to the fact that the variety is unknown or reaches the market in such small quantities that no special preference has been created for it. Again, odd varieties are generally shipped in mixed cars—that is, the quantity of each variety available is so small that several must be combined to make a shipment. Such a shipment is not desirable to the wholesale trade and must be sold at a discount.

The problem is primarily a question of management in production. The cooperative associations are performing a service by

bringing home to the growers the wastes arising from the production of undesirable varieties. Some adjustments are already being made. Nevertheless, the Western New York Fruit Growers' Cooperative Packing Association, as one example, handled during the 1924–25 season 60 varieties of apples, but 70 per cent of its tonnage was made up of two varieties—Baldwin and Rhode Island Greening—and 5 varieties accounted for more than 90 per cent. It is safe to say that the 55 varieties, representing less than 10 per cent of the tonnage, were a liability to the members of the organization.

Although adjustments in production are being carried forward, careful sales work is necessary to dispose of the odd varieties. If certain markets or dealers show a preference for any of these varieties, or are not prejudiced against them, these outlets should be developed. As a general rule, the smaller towns will be found to be better markets for odd varieties than are the large cities, but proper trade connections must be built up in these markets and must be maintained through fair treatment and the shipment of reliable products.

Varieties poor in keeping quality, or inferior in size, appearance, or quality can not be sold to advantage in any market, and should be discarded as quickly as possible. The production standards of yield, resistance to disease, time of maturity, etc., by which varieties are selected, must be amplified by a consideration of the marketable qualities of the varieties and their keeping quality under handling, transit, and storage conditions.

PACKING, STORAGE, AND GRADING DIFFICULTIES

Following the production of products of good quality, methods of handling, packing, and grading the product are fundamental to successful marketing. This factor was recognized in a general way by the managers interviewed, but at the same time handling and grading practices were far from being standardized. There are many sources from which loss may arise. The most important are:

1. Loss from decay or deterioration due to injuries to the product inflicted during the harvesting and packing operations.

Handling injuries are a comon source of loss in the fruit and vegetable industry. Extensive investigations by the Department of Agriculture, initiated over 20 years ago, have shown that the loss to California citrus growers from decay caused by handling injuries totaled approximately $1,000,000 annually, on the basis of 1904 production and prices. The same proportional wastage was found in Florida citrus fruits, and in practically all the more perishable fruits and vegetables, while none were free from loss by this cause.[2]

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[2] Several publications have been issued by the Department of Agriculture on this subject, most of which are now out of print, but are available in agricultural libraries. The more important are the following Department Bulletins:

No. 123. The decay of oranges while in transit from California. 1908.
No. 63. Factors governing the successful shipment of oranges from Florida. 1904.
No. 274. Factors governing the successful shipment of red raspberries from the Puyallup Valley. 1915.
No. 331. The handling and shipping of fresh cherries and prunes from the Willamette Valley. 1916.
No. 587. The handling and storage of apples in the Pacific Northwest. 1917.
No. 601. The handling and precooling of Florida lettuce and celery. 1917.
No. 1072. The handling, shipping, and cold storage of Bartlett pears in the Pacific Coast States, 1922.

The demonstrations of the department have resulted in many important changes in harvesting and packing practices. (See fig. 3.) Careful handling of perishable products, however, can be maintained only by the constant supervision of a manager who

FIG. 3.—Harvesting California oranges. The care with which the orange picker handles the fruit is a factor in the success of the association employing him

realizes its importance. An intensive drive for better and more careful methods of handling the product will repay any organization handling fruits and vegetables.

2. Losses caused by inadequate storage facilities and deterioration in storage.

Lack of adequate storage facilities in the community handicaps many associations. In preparing for the construction of local storage plants to meet this shortage, it is necessary to consider the extent to which the commodity requires storage. Marketing plans as well as the keeping quality of the product enter into this question. Whether terminal storage facilities can be used to advantage must also be considered. The question of whether farm storage or shipping-point storage warehouses or a combination of the two should be used will also arise.

The question of handling enters into the storage of perishable products. Injuries hasten deterioration in storage. The maturity of the product is an important factor. Immature or over-ripe fruits or vegetables generally have poor keeping quality. Delay between harvesting and storage is another common cause of loss.

These problems are not peculiar to cooperative associations. The associations should be able to meet them more satisfactorily than private shippers and have a greater interest in their solution. If the organizations fail to meet them, their merchandizing plans will be a complete or partial failure.

3. Losses caused by improper grading and lack of grade standards.

Proper grading of the products becomes more important when cooperative marketing is adopted. Pooling can not be practiced satisfactorily without standardized grades. The improvements which a cooperative association is organized to bring about presuppose standards on which the value of the products delivered by each member and the value of the association's shipments can be based.

GRADING AND STANDARDIZATION [3]

There is scarcely one important marketing function that can not be performed more effectively when the commodity is graded to recognized and definite specifications. It is especially necessary, however, that cooperative agencies should maintain definite grade standards. In fact, this is set down by practically all authorities as a basic prerequisite to success.

One object of cooperative marketing associations is to enable small producers to obtain the advantages which accrue to large-scale operations, such as lower transportation costs, better facilities for assembling, and more intelligent distribution. A relatively large volume of produce is required to bear equitably the heavy overhead expenses of such organizations, and in drawing tonnage from a whole community there are, as a rule, wide variations in the quality of the crops of the several individuals. The practice of pooling the shipments of the various members is becoming general among cooperative marketing associations. There are sure to be poor sales as well as good sales, and it seems only fair that the members should share alike the ups and downs of the market. Without a proper system of grading, the practice of pooling would impose a direct penalty on the best class of producers.

Standard grades constitute a common language between buyers and sellers. They facilitate trading, serving as a basis for: (1)

[3] The following discussion is based on an article entitled "Standardization Necessary for Cooperative Marketing," by H. W. Samson, published in Agricultural Cooperation, April 9, 1923.

Future contracts, (2) sales f. o. b. shipping points, in transit, and in other circumstances where the buyer can not exercise the privilege of inspection, (3) Government inspection, adjustments, and claims, and (4) the intelligent comparison of market prices.

In addition to these benefits which obtain by reason of a complete understanding between buyers and sellers as to the precise character of the product, there are other advantages which result from the actual sorting of the commodity, in so far as this is practicable, into classes which meet the particular requirements of the trade. Grading permits wider distribution because: (1) The more perishable lots may be sold without waste in near-by markets or utilized for by-products purposes, leaving the remainder for shipment to more remote points, (2) when properly graded some products may be held safely in storage, thus extending the marketing season, (3) certain classes of buyers are attracted who do not handle products of indeterminate quality, and (4) any sound advertising program must be based on uniform, dependable products.

An important benefit of standardization is the good will which it creates. Confidence in the products of a cooperative organization, and in its general business methods makes financing easier, increases demand for the organization's products, and reduces the margins of middlemen. Furthermore, the enforcement of standard grades at the point of production not only directs the attention of the grower to his mistakes in production and harvesting, thus setting him to correct them, but insures him proper remuneration for more careful and effective methods.

The necessity for standards in the marketing of agricultural products can no longer be regarded as a debatable point. For the present the great problems relate to their effective application. Cooperative associations have in the past been foremost in realizing the need of better grading of farm products. Groups of growers working for their mutual benefit have often maintained voluntarily standards which would have been entirely impracticable had the trade attempted their imposition. However, the large number of commodities involved, the development of many systems of grading and packing, and the great variety of packages used in various parts of the country, have tended to increase the problems of standardization.

The United States Department of Agriculture is engaged in preparing grade standards for farm products. At present such grades have been formulated for the following fruits and vegetables: Barreled apples, asparagus, string beans, bunch beets, cabbage, cantaloupes, bunch carrots, cauliflower, celery, cucumbers, Florida citrus fruit, eggplant, Eastern-type bunch grapes, juice grapes, table grapes, grapes in sawdust or other packing material, lettuce, Bermuda onions, northern onions, peaches, farmers' stock Spanish peanuts, runner peanuts, shelled white Spanish peanuts, pears, fresh plums and prunes, sweet peppers, pineapples, potatoes, sweet potatoes, spinach, strawberries, cannery tomatoes, fresh tomatoes, bunch turnips, and watermelons.

Many of these grades, for example, the United States grades for potatoes, are established throughout the country. Grades for other products are rapidly being adopted. The adoption and use of Fed-

eral grades are a requisite of the Federal shipping-point inspection service. It is a common observation that where no grade standards are recognized buyers are inclined to pay a flat price based on the average value, or something less than the average value. Conversely, trading on a basis of quality is the greatest stimulus to better methods of production, and definite, uniform grades are the means to that end.

Shippers frequently complain of unjustifiable rejection of shipments on account of a declining market, or for other causes. Buyers claim that they are often forced to accept poorly graded products. The answer to the whole problem is definite, practical grades.

PRESENT METHODS OF GRADING AND STANDARDIZATION

Practically all cooperative fruit and vegetable organizations are attempting to grade their products. The means used and the results obtained, however, vary considerably. At present, the grading of fruits and vegetables is carried out in one of three ways. These are: (1) Hand selection, sizing, and packing, (2) grading, sizing, and packing in plants and with equipment owned by grower, (3) grading, sizing, and packing in central plants.

Hand selection by the grower, or under his direction, is the oldest form of grading. In the past it has been the principal method. For certain fruits and vegetables, hand grading is necessary because of the nature of the product, and its nonadaptability to machine grading. Wherever possible, however, producers are turning to grading and sizing machinery of various kinds because of the wish to economize labor, to handle larger volumes of products, and to obtain greater uniformity in size and grade.

In many sections of the country grading is performed in the field, or in growers' packing sheds. The practice is especially common in sections where each producer has sufficient volume to make the purchase and use of equipment for sizing economical. In other cases, several growers in close proximity have jointly purchased equipment to handle the product of the group. Such methods have generally improved the market grades of fruits and vegetables, and have secured greater efficiency in the operations of grading and packing. Conformity to definite standards, however, has not generally been secured under this system. Lack of information and differences of opinion among growers concerning grade standards are inevitable. Consequently, central packing houses are being constructed in many sections in order to obtain uniform grading and packing (fig. 4).

Many cooperative organizations, especially those covering a large area, own and operate central packing plants. In a few instances these packing houses are owned and operated by private individuals with whom the associations contract for the grading and packing of their products. In most cases, however, such plants are operated by the organization, either directly or through subsidiary corporations. Frequently these plants are equipped for use as storage warehouses.

Each local unit of a federation may have one or more central packing houses, depending on the volume of its shipments. Grade

standards in these local plants are often controlled by the federation. Inspectors employed by the federation are in constant touch with the various plants during the packing season. Through the inspectors the packing-house managers learn the requirements for each grade,

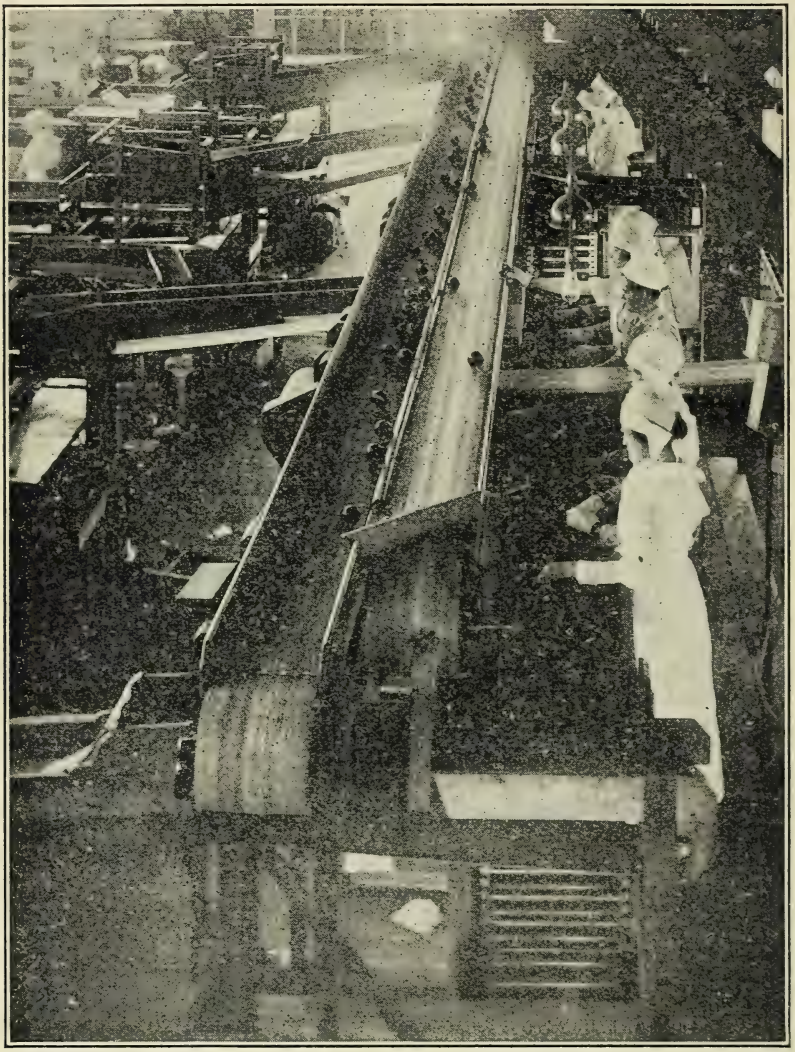

FIG. 4.—Grading oranges in the packing house of a California cooperative association. Good light, convenient mechanical devices, and trained workers maintain the standard of the orange grades

and can take advantage of the experiences of other managers in handling their problems. Such arrangements are conducive to the elimination of variations in pack, and to a high degree of efficiency in grading and in standardizing the grades used.

CONTROL OF DELIVERY

The fourth difficulty set forth by the officers and managers of cooperative associations is inability to control the delivery of the product or to specify the time of delivery. In extreme cases, in the absence of a contract or in violation of the terms of their contract, members may sell outside the organization and use the association merely as a dumping ground for poor shipments or as a refuge when market conditions are such that they are unable to sell individually. In these instances, all the conditions for failure are present and failure generally follows such half-hearted ventures in cooperation.

In other instances, as indicated, the growers, although marketing their entire crop through the association, reserve the right to determine the time at which their shipments shall be sold and, occasionally, the market. A carefully planned pooling system should overcome this difficulty. When a grower receives the average price for all shipments of the same grade as his own, he should be willing to allow the association to determine when his crop shall be sold. It is obvious, of course, that when each grower acts as salesman to the extent of determining when his crop shall be sold, no systematic plan of distribution can be put into effect.

A situation of this kind often arises from faulty organization of the association. From the first, it should be understood and expressed in a contract between the association and its members, that all the crop produced by each member is to be delivered to the association and that the association may specify the time and place of delivery. Any other arrangement makes for inefficient marketing.

INEFFICIENT SALES SERVICE

Failure to supply small markets regularly and directly and the glutting of certain markets while others are undersupplied was listed as a difficulty of cooperative associations, especially those depending on other agencies for marketing service. This difficulty appears when there is an overproduction of the commodity in question and is frequently more apparent than real. The more perishable commodities handled by large marketing organizations certainly are distributed reasonably widely and effectively and the list of cities receiving car-lot shipments is large. The Florida Citrus Exchange, for example, sold car lots of citrus fruit in 413 markets in 1923. It is hardly possible, at the present time, that serious market gluts continue for more than a few days if other available markets are short of supplies, for shippers who are in touch with many markets by telegraph and are anxious to sell at the best price, immediately divert or consign shipments to the cities where the shortages exist.

It is no doubt true, however, that cooperative associations, like other shippers, send supplies to market without knowing definitely the best markets for their products. They may pass by promising markets in order to obtain "wide distribution." An analysis of the available supply of the product handled and of competing products, and a careful study of the requirements and potential demand in each market, such as is made by the sales departments of the California

Fruit Growers' Exchange, the Sun-Maid Raisin Growers, and other large cooperatives, should precede the opening of each marketing season.[4]

It is a part of the duties of a sales manager to determine the normal market for the association's shipments. In doing this he should consider near-by smaller cities which may be supplied directly as well as the larger markets. There are some products, like watermelons or peaches, which must be moved in a brief period and which require wide distribution. For other commodities the marketing season is longer and distribution may be more intensive.

After determining the normal market territory, it is necessary to make personal contacts with the buyers in that territory and to maintain the relationships established by fair treatment and by products satisfactory in grade, quality, and price.

What a cooperative organization can do immediately to improve the distribution of fruits and vegetables is, first, to improve the product, then to analyze the demand and competing supply, and finally to make clean-cut business connections with reliable car-lot buyers of the commodity. Whether such connections shall be made directly or through brokers or distributing agencies, or whether sales shall be made at the markets or locally are questions which must be decided in the light of the conditions surrounding each organization and commodity.

The complaint that too many shipments are moved unsold or consigned to commission merchants or auctions may result from inefficient marketing service but not necessarily so. Under certain conditions, fruit auctions and commission merchants may be the most effective way of disposing of a portion of an association's shipments. Excessive consignments indicate that market conditions are unfavorable, that the buyers are purchasing from day to day and that they want to see the goods before investing. This in turn indicates oversupply or diminished demand with often the added factor that the quality of the produce is so inferior or uncertain that buyers are reluctant to purchase shipments outright.

RETAILING METHODS AND MARGINS

Many associations are inclined to blame the high margins taken by retailers for the lack of demand for fruit and vegetable products. This is a question on which little information is available and, again, the things which a small association may do to change the situation are limited. The California Fruit Growers' Exchange, owing to its size and stability, is able to engage actively in "dealer service work." Its work with retailers is based on a well-graded, well-packed product of dependable keeping quality and on the ability of the Exchange to keep its brands of citrus fruit in the markets where these retailers are located.

The dealer service men of the Exchange visit retailers and endeavor: (1) To induce the retailer to display California oranges and lemons attractively, (2) to use posters and other display material featuring the Sunkist trade-mark, and (3) to reduce his margin

[4] See U. S. Dept. Agr. Bul. 1237, Organization and development of a cooperative citrus-fruit marketing agency, pp. 26 to 28, 1924.

to not more than 25 per cent of the resale price. Many arguments and examples are employed to demonstrate to the retailer that if relatively small margins are maintained his sales will increase and his total profits, consequently, will be larger than would otherwise be the case. It is interesting to see that as powerful an organization as the exchange has approached this problem from the point of view of cooperation with the trade.

It is doubtful whether many fruit and vegetable associations can follow the exchange's lead in giving direct assistance to the retailers, but they can improve the fundamental situation gradually by improving the quality of the product offered for sale, and as a group they may be able to make important changes in methods of retailing fruits and vegetables.

All marketing costs, as already stated, increased rapidly from 1917 to 1921. At the same time shipments of perishables were increasing, and the demand proved insufficient to absorb the increased supply at prices commensurate with the general advance in price levels. It is idle to attempt to cure, or even explain the situation, by considering only one factor, such as retailing costs. It does raise the question whether retailing practices are as economical and efficient as they should be, but from the grower's point of view it points more definitely to an analysis of his production, grading, packing, and selling practices; in fact, to a careful determination of what products he can ship and in what form they should be shipped to avoid loss.

TRANSPORTATION DIFFICULTIES

Car shortages were a common complaint of the association managers, with delays in transit, ineffective refrigeration service or heating service held responsible for much deterioration and loss. A discussion of this problem does not fall within the scope of this bulletin. An association should be in a better position than an individual to demand satisfactory service from the carriers. An association, however, can help further in overcoming these difficulties by giving the railroads reliable advance information regarding the number of carloads to be moved from the region and the approximate shipping dates. Personal contacts and a spirit of cooperation in dealings with railroad officials will serve the association better than a spirit of indifference or hostility. Cooperating growers can not ignore the railroads' problems and expect universally satisfactory service. They must, at the very least, go far enough into the question of transportation to discover the reason for the poor service of which they complain.

A bureau of service has been organized by the Interstate Commerce Commission to keep in touch with operating and transportation conditions throughout the country. Special attention is given by this agency to such problems as the need for increased car mileage, for heavier car loading, and for a decreased percentage of bad-order cars.

The bureau of service keeps in close contact with the car service division of the American Railway Association. With a view to enlisting the cooperation of the shippers, the car service division has organized a number of regional advisory boards. The expressed

objects of these boards are: (1) To form a common meeting ground between the shippers and the carriers, (2) to study production, markets, and trade channels as related to transportation, (3) to promote car and operating efficiency in connection with maximum loading and the proper handling of cars, and (4) to obtain a proper understanding by the railroads of the transportation needs of the shippers.

OTHER ORGANIZATION AND MANAGEMENT PROBLEMS

PROBLEMS OF ORGANIZATION

There are several general questions that should be considered in forming a cooperative marketing association. Of primary importance are: (1) The volume of business the proposed organization may hope to obtain, (2) whether this business is scattered or concentrated, (3) the exact services the cooperative organization aims to perform for its members, and (4) the cost of these services in relation to the volume of business.

Successful cooperation is based on the performance of certain services as well as, or better than, the private agencies already existing. Too many cooperatives are organized with rather vague ideas of the work to be done.

Unless a study has been made that shows clearly the particular objects that could be accomplished by an association, and unless this point of view is clearly in the minds of those making up the organization there is danger of failure. It is very easy to be confused by generalities on this point. It may be said that the object of an association is to market potatoes or apples or some other kind of fruit or vegetable. The farmers are already marketing those products as individuals. The first object of such a study should be to inquire if there is anything fundamentally wrong with the existing system of marketing, and secondly, if it possesses weaknesses, how these may be corrected through associated action.

It may be decided, after investigation, that the marketing connections of the individual producers are weak or uncertain. When there are excess supplies, or when demand is weak, the dealers may be unwilling to buy the producers' products. Or possibly, the farmers are paying too much for their marketing services under existing methods of marketing. This is a factor that requires careful analysis. It can not be stated with certainty that a cooperative association will reduce marketing costs until the costs of existing systems have been carefully analyzed, and until a carefully prepared estimate has been made of the probable operating cost of the proposed cooperative organization. It may be true also that the growers' products are shipped under a great variety of brands and grades. Operating cooperatively they should be able to correct this lack of standardization and thus render a service to the producer not possible under existing systems. This is an essential step in better marketing.

The factors mentioned do not cover the entire field. They are simply suggestive and indicate the scope and complexity of the questions which should be considered if a cooperative enterprise is to be established on the stable basis of better and more economical service to its members.

A small volume of business usually will not permit many services to be performed. Many cooperative organizations have found themselves in this situation. A large proportion of the organizations handling single commodities are doing a volume of business of less than $25,000 per year. This amount is not sufficient to permit a competent manager to be engaged without making the necessary overhead expense burdensome. Many other possible services must be omitted in such circumstances, and the manager called upon to perform the duties of manager, packing foreman, salesman, bookkeeper, and other functions.

In addition to these general problems, certain special problems of organization are encountered by associations already in operation. Difficulties arise, for example, because of the improper division of functions in certain federations between the local associations and the central agency.

This problem is due largely to the structure of the organization. In many federations of the decentralized type, too much power has been retained by the locals, and the authority delegated to the central organization is insufficient to permit efficient operation. Such conditions as: (1) Lack of central control over grading and standardization, (2) lack of control by the central over the time and conditions of sales, (3) lack of contracts between locals and the central, are due to improper organization and they detract from efficient operation.

In some of the highly centralized federations, so much of the power and functions of operation are in the hands of the central organization that the locals have practically no business functions. In such cases, the local associations find it exceedingly difficult to maintain the interest of their members. This condition not only weakens the system of representation, on account of the failure of many members to vote, but also destroys much of the value of the local as a forum for the discussion of policies. Either extreme is detrimental to successful cooperation. The aim should be to grant the central the power necessary to control the operation of the various functions with efficiency but to retain wherever possible, in the locals, the functions that can be performed at the shipping point in order to sustain the interest and responsibility of the members.

The proper time to settle questions of this nature is prior to organization. A few communities, in late years, have appointed committees to make thorough studies of their particular situations. Such studies have generally determined: (1) The marketing improvements needed, (2) how much improvement best could be brought about, (3) the possibilities of organizing an association from the standpoint of volume of business available, (4) the form, type, and other details of the organization best adapted to the needs of the particular situation.

MEMBERSHIP CONTROL

Safeguards calculated to prevent control from passing into the hands of a few individuals are included in the by-laws, the articles of association, and are frequently a part of the cooperative law under which the associations are incorporated. Associations formed with

capital stock usually limit the number of shares that can be held by one member, or provide that each member shall have but one vote regardless of the number of shares of stock of the organization he may own. In nonstock associations, each member has but one vote.

It is a principle of cooperation, that the marketing organization set up by a group of producers shall be created and operated to furnish its members economical and efficient marketing service. It is not operated to make a profit on invested capital, other than a fair return for the use of such capital. There should be no conflict between the interests of the stockholders or owners of the business, as such, and the members or patrons, as such. There is none when each member contributes equally to the capital investment of the association, or when such contributions are proportional to the uses each member makes of the facilities of the organization. The restrictions on the ownership of stock, and limitations of the voting privilege of common stock are intended to avoid conflicts of this kind. If the interests of the stockholders become paramount for any reason, the cooperative features of the organization are in danger of being destroyed.

In small associations, the board of directors is usually elected by the direct vote of the membership at the annual meeting. This is not usually possible, however, in large centralized organizations on account of the extent of the territory over which the association operates. The members either vote by proxy, or elect a certain number of delegates from defined districts within the territory to represent them. The members of a federation are the affiliated associations. Each local organization either sends a delegate or representative to the annual meeting of the federation, or elects directly one or more directors to the central board. Federations that market fruits and vegetables seem to be about equally divided between these two plans.

CONTRACTS

An important consideration in forming a cooperative marketing association is whether a contract between the members and the organization shall be used, and the form that shall be employed. The majority of fruit and vegetable marketing associations have contracts with their members. Reports received from 604 associations show that 390, or 64.6 per cent, required their members to sign a crop contract, and 214, or 35.4 per cent, had no contracts in force.

Especially when an association is first formed a contract exerts a steadying influence and definitely defines the obligations of the association and its members. Furthermore, a cooperative association, like any other business organization, must make plans in advance of the marketing season. The association must have an assured volume of business in order to plan effectively. This it can not do, if every member is free to withdraw from the organization at any time.

Whether the contract should be for a long or a short period, and whether dissatisfied members should be allowed to withdraw at certain times during any year is a subject on which there is no

unanimity of opinion. The late G. Harold Powell, one of the best-known leaders in the cooperative movement of this country, has made the following statement on this point:

> I think a contract should be long-term, just as long as possible, but I think that every contract ought to have a cancellation privilege by which the men who are dissatisfied, who feel that the organization is not working correctly, should be permitted to get out. The dissatisfied man in a cooperative organization is better on the outside than inside, and any contract which holds men together against their will in a cooperative organization, in my judgment, is unsound.[5]

The general policy among fruit and vegetable associations, in contrast with associations that market some other products, is to permit members to cancel their contracts during a specified 15 or 30 days of each year. This period is usually placed some time after the close of the marketing season, that the association may not be deprived of tonnage it has planned to market, and that temporary discontent that may arise while the crop is being moved may have an opportunity to be forgotten.

Where an association has assumed long-time obligations such as for construction of plants or warehouses, argument may be made for the long-time, noncancelable contract. If such a contract is adopted, the members should go into the organization with a clear understanding of their obligations and the purposes of the organization. Care should be taken in the selection of directors, officers, and managers in all cases, but with a long-time contract unusual efforts should be made to safeguard the interests of the members.

The enforcement of membership contracts is always a vexing question, although the fruit and vegetable organizations have had less difficulty in this respect than some associations that handle other products. Although the disregard of flagrant violations of crop contracts may have a demoralizing effect on the membership, wholesale prosecutions may react equally unfavorably and prove costly to the organization. Every crop contract should contain a clause providing for liquidated damages, and generally these provisions should be enforced strictly. If the number of contract violations becomes unusually large, however, it is time to take stock of the fundamental causes leading to contract violations. As a general rule, it indicates either a lack of cooperative spirit among the members, or a lack of efficient service on the part of the association. Both of these factors are fundamental to the success of the organization, and no contract, however stringent, will compensate for failure in this respect.

BY-LAWS

The by-laws of fruit and vegetable organizations are similar to those of organizations handling other types of products. They state the objects of the organization; conditions of membership; date of the annual meeting; the number, method of election, and duties of directors and officers. The special rules to be observed in the operation of the organization are stated, and any other provisions are included that are necessary to safeguard both the rights of the members and their association.

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[5] Address to members of the staff of the United States Department of Agriculture, 1921.

MANAGEMENT

The failure of cooperative associations is ascribed to poor management in approximately half of the cases reported to the United States Department of Agriculture. The term management rightly should include the supervisory activities of the board of directors. Too often it is interpreted to mean only the functions of the general manager and his chief assistants.

The general manager, of course, is the key man. He is directly responsible for all branches of the business, whether it is large or small. Essentially, he must have the experience and ability necessary to carry on the business of the association. He should have sufficient vision to see the possibilities of new methods and practices, and, at the same time, be sufficiently cautious to proceed only when experiments have shown that the new methods are right. The history of cooperation is filled with costly failures of apparently promising schemes in handling or distributing fruits and vegetables into which associations were led by the enthusiasm of inexperienced managers. The manager, therefore, as a matter of course, should be a competent business man.

Furthermore, he should understand the growers' point of view and be sympathetic towards cooperative marketing. It should be unnecessary to mention this qualification, but many associations are run by men who do not understand the principles of cooperation and whose understanding of the growers' problems is limited. Under a manager of this kind there is a drift toward the methods of private business and a tendency to operate the association as a profit-making organization rather than for service. The growers lose the contact with marketing problems which is necessary to adjust their production practices properly and which should be one of the chief benefits of cooperation. The manager's position calls for tactful and sympathetic cooperation with his members.

Managers with the necessary ability and experience are not easily found. Cooperatives must expect to pay what the services they obtain are worth and will find that efficient service, adequately paid, is the most economical in the long run. Work with growing cooperatives often requires not only ordinary qualifications of fitness, but the added quality of resourcefulness in order to meet and solve new situations. If these qualities are not adequately remunerated, the association will suffer the loss of well-trained employees. On the other hand, some organizations have paid large salaries to employees without inquiring fully into their qualifications. Adequate or large salaries do not necessarily guarantee efficient management.

The manager's duties include supervision and coordination of the work of the several departments. In small organizations, the manager and the few assistants often do all the work involved. The general manager of larger organizations, however, has under him managers of such separate departments as organization, sales, advertising, finance, and accounting, all of which are concerned with the administration of the business. As the business grows, the manager must delegate more and more responsibility to others. His duties then become more involved and require greater executive ability.

The overhead expense of many organizations is high in comparison with the volume of business handled. As has been shown, an inadequate volume of business is a common cause of this condition. Other causes occurring frequently are too many employees and inefficient employees. It has been a fairly general practice to organize an office and field force to handle a volume of business anticipated during the wave of enthusiasm attending organization. Often the new organization handles considerably less business than was expected, but there is little decrease in the fixed overhead. Heavy deductions from the receipts for members' products, a dissatisfaction of members and a further decrease in the business of the association have resulted. On the other hand, cooperative associations have started with a small force that was increased gradually as the volume of business justified additional employees. Many of these organizations have been able to operate as cheaply as, or more cheaply than, competing private concerns. As a rule, the membership has increased and volume of business has been satisfactory.

Cooperation presents new problems of management, finance, and accounting. Men with training in other lines of business have not found identical problems in cooperative organizations, and therefore have been compelled to make readjustments. This has added to the difficulties cooperative associations have experienced in securing competent employees.

Failures caused by inefficient management are frequently chargeable to the board of directors. The board, of course, is responsible for the employment of the manager. Further than this, it is, or should be, responsible for the policies of the association. The manager in most instances will initiate these policies, but the board should give them careful consideration and be the final authority as to their soundness. Failure of the board to perform their duties in this respect endangers the success of the organization.

FINANCING MARKETING ASSOCIATIONS

More than half of the reports concerning 927 cooperative associations, handling various farm products, that went out of business during the period 1913 to 1923, gave unsound or inadequate financing as a whole or a contributing cause. Cooperative organizations should develop their financial plans carefully in order to ensure successful and continued operation.

Any plan for financing a cooperative association must take into consideration the nature of the investments that must be made and the expenses that must be met. The kind of product, market conditions, and the financial responsibility of the membership all serve to determine the plan adopted.

All or a part of the following requirements of a cooperative association enter into the determination of financial policies: (1) Organization expense, (2) permanent investments, (3) operating capital, (4) reserves, (5) advances to members for production or marketing purposes. Whether an association is incorporated with capital stock or as a nonstock organization is also an important factor in financial policies. In fact, financial problems more often than not determine the form of incorporation.

ORGANIZATION EXPENSE

The expense of organization is legally an obligation of the incorporators of a cooperative association. It is, however, universally the custom for the newly formed corporation to assume this expense. Organization expense is usually met by the collection of a membership fee from each member at the time he joins the association, or by the sale of capital stock, if the association is incorporated with capital stock. Occasionally a loan is made for the organization of a cooperative association by interested business men, banks, or other agencies. Frequently, in such instances, the expenses of organization are refunded over a period of years by deductions from the sales made through the association. This last method has the disadvantage of embarrassing the management with a deficit at a time when a careful check on expenditures is most necessary. Other things being equal, a new organization should plan to meet organization expense through fees or stock subscriptions.

PERMANENT INVESTMENTS

The extent of the permanent investments of a cooperative association depends upon its size and the nature of the business in which it proposes to engage. Real estate, packing plants, packing equipment, storage warehouses, office buildings, and equipment represent the most usual permanent investments of fruit and vegetable associations. The possibility of hiring or leasing such plants or equipment is a factor to be considered.

Associations formed with capital stock as a rule plan to finance permanent investments, in part, by the sale of the common stock of the association. When the amount raised in this way is insufficient, an issue of preferred stock is sometimes offered to investors. The holders of preferred stock, as the name implies, have a prior equity in the assets of the association over the holders of common stock. They are not entitled, however, to a voice in the management of the enterprise, except in some States under special conditions. The dividend paid on preferred stock is at a previously determined rate.

The average fruit and vegetable association, however, usually adopts the policy of applying the proceeds from the sale of common stock among its members to the financing of fixed investments, and negotiates a loan for the additional capital necessary. The creditors of the organization are secured by a mortgage, or trust deed, on the property. If this is considered insufficient security, the directors may be requested to add their personal indorsement to the association's note. This is an assumption of financial responsibility that is unfair to the individuals concerned. Some method should be devised under these conditions, to make all members equally responsible for the liabilities incurred by investments in fixed assets.

The most satisfactory solution of this problem is to insist on investment in the enterprise by all the members. That will give it sufficient stability to finance investments in permanent assets by a corporation note secured by a mortgage on the property involved. No enterprise dependent upon the personal credit of a few individuals connected with it can be said to be on a stable basis.

Attempts to make all members equally liable for expenditures for fixed investments by using the accommodation notes of the members as collateral for loans of this character have been unsatisfactory for several reasons. The first relates to the character of accommodation notes, into which class fall notes of this kind given by members to their association. An accommodation note is generally held to be unenforceable by the payee against the maker thereof, and if accepted after maturity can not be enforced by a third party who purchases it, or holds it as collateral. Most accommodation notes are payable on demand, in which case uncertainty exists as to the time the obligation is due. Some courts have held, however, that the due date of a demand note reasonably may be considered one year from the time it is drawn. In a few instances, even shorter periods have been specified.

Nonstock associations have a more acute problem in financing fixed investments than stock organizations. In fact, the difficulties have led a number of organizations to incorporate with capital stock rather than on the nonstock plan.

Two general methods have been adopted by nonstock organizations to finance investments in fixed assets. These are (1) to organize a subsidiary capital stock corporation, or (2) to procure the initial capital from membership fees, or loans from members, evidenced by "certificates of indebtedness." The collateral-note plan, already described, may be used also.

The organization of subsidiary warehousing or packing corporations has been confined, in the fruit and vegetable field, to a few large organizations. The common stock of a subsidiary corporation is generally a small issue, owned entirely by the parent cooperative association. The subsidiary, as a rule, puts on the market an issue of preferred stock from the sale of which it procures the funds necessary to finance, or partially to finance, the construction or purchase of buildings and equipment. Additional funds may be procured through mortgage loans.

A nonstock association attempting to finance independently the construction or purchase of warehouses and other property has a more difficult task than an association organized with capital stock. Membership fees in such an organization are usually small, inadequate for even the initial investment in fixed assets. Additional funds must be procured from the members, or the organization must proceed largely on the credit of its directors, or public-spirited citizens.

A local nonstock association frequently borrows money from all its members for this purpose, giving them in return "certificates of indebtedness," evidencing the interest of each member in the assets of the association. In other cases, the bankers and business men of the town take an active interest in the association, and the organization receives loans on unusually favorable terms. Provision for the retirement of loans of this kind is usually made by fixed deductions from the gross receipts for the sale of products, which are carried in a "building and maintenance" or "indebtedness retirement" fund.

The larger associations, as a rule, can not depend to the same extent on outside assistance, although even here banks and individuals have taken a liberal attitude. The "certificate of indebtedness" plan seems to be the only feasible method of financing fixed investments in a nonstock organization which does not organize a subsidiary corporation. A part of the initial capital for fixed assets should come from the members. Certificates of indebtedness may be issued payable in annual installments, usually five, or payable in full in three, four, or five years from the date on which they are issued. Certificates of indebtedness generally carry the common rate of interest payable annually or semiannually.

As deductions are made from money received for members' products to retire matured certificates of indebtedness, purchase new equipment, or erect new plants, it is customary to issue certificates covering these deductions. This means that the certificates are a perpetual liability against the assets of the association. They represent the equity of the members in their association, but are nontransferable and retirable at a definite date or dates.

Some associations operate on a plan that looks forward to the eventual retirement of all certificates of indebtedness. Under this plan, from a deduction of say 5 cents per package, 2 cents would be applied directly to "retirement of indebtedness," or a similar fund. The remaining 3 cents would be applied to the same fund, but would be credited to the contributing members. Therefore, certificates of indebtedness would be issued to cover 60 per cent of the members' contributions. In this way, members entering the organization after it has been in operation for some years would pay their share of the capital investments of the organization.

The retirement of certificates of indebtedness has been objected to on the ground that the certificates are a direct evidence of each member's interest in the assets of the association. Such interest, however, usually can be determined by an appraisal. This question can arise only on the death, withdrawal, or expulsion of a member. Many associations refuse to recognize the right of a withdrawing member to a share of the assets of the organization. At least one court decision has upheld this view,[6] and it appears to be sound provided there are no provisions, statutory or otherwise, to the contrary.

In all cooperative organizations, the chief problem in connection with the financing of investments in permanent assets, is to procure funds that can be made the basis of credit, usually mortgage credit, necessary to complete the investment. A few associations have financed the construction of plants by a bond issue. This is feasible when the organization's credit is well established, and it possesses assets sufficient to insure the safety of its bonds.

Any plan should contemplate that eventually permanent investments will be financed by the members of the organization. This is sound financing and will contribute materially toward the stability of an association. In addition, the interest and loyalty of the members are often in direct proportion to the investments they have made to build up their organization. From the cooperative as well

[6] U. S. Dept. Agr., Bul. 1106, Legal phases of cooperative associations, 1922, p. 21.

as the financial point of view, therefore, it is desirable that the members should assume as quickly as possible the full burden of financing their association.

OPERATING CAPITAL

In addition to funds required for permanent investments, an association must have a greater or less amount of operating capital. Operating capital is necessary to purchase packing supplies, pay the wages of labor employed in harvesting, packing, and other operations, make advances to members, and for similar purposes. Many associations are severely handicapped by lack of operating capital.

Associations that have been in business for some time frequently accumulate a reserve that provides at least a part of the operating capital necessary. It is more generally the custom to borrow all or a part of this sum. A newly organized association, of course, has no reserve on which to draw. Such an organization may procure operating capital (1) in part from the sale of stock, or from membership fees, (2) by unsecured, or partially secured loans from its members or others, (3) by loans secured by members' collateral notes, (4) by loans secured by personal indorsement of officers or directors, (5) by loans secured by warehouse receipts, (6) by loans secured by a draft on a purchaser of the association's products, and a bill of lading, or "car delivery order," for the shipment covered by the draft.

The use of members' collateral, or accommodation notes has already been discussed. They can be more properly used as collateral for temporary loans than for the purpose of procuring loans to be used for permanent investments. The indorsement of the association's notes by a few financially responsible directors has the objections already mentioned.

Warehouse receipts may be used for certain nonperishable, or semiperishable products,[7] while with certain perishable products advances procured by drafts covering car-lot shipments may take care of the larger part of the operating capital necessary.

It is advisable that some provision be made for a permanent operating capital fund, or that the association be given the financial standing to enable it to borrow the amount necessary on its unsecured note, or with such security as is readily available.

RESERVES

It is necessary that associations should have adequate reserve funds to provide for losses that may occur, to provide at least a part of the operating capital, to give the organization a sound financial standing, and to make temporary advances to members for production or marketing purposes, where such advances are necessary.

MARKETING CREDIT

Usually, the members of fruit and vegetable associations do not receive payment until the products they have delivered are sold and the pools closed. When a pool extends over a long period,

[7] Service and Regulatory Announcements No. 61, Information concerning the United States warehouse act, 1920.

as, for example, a season pool for oranges, it is customary to make advance payments to members from time to time, as collections are made. These payments are always kept within safe limits so that the growers receive, prior to final settlement, only a percentage of the estimated net returns for the pool.

A few associations, dried-fruit organizations particularly, pay their members a portion of the estimated market value of the crop at the time it is delivered. Money for this purpose is borrowed, as a general rule, although the associations' reserves may be drawn upon. The dried fruit associations finance these advances by borrowings, using warehouse receipts for the stored product as collateral. Fresh fruit and vegetable associations may deposit drafts on buyers with local banks. Apple-marketing associations in the Northwest sometimes receive advances from storage companies in the terminal markets who hold the fruit in their warehouses until it is sold.

Advances to members on delivery of the product by fruit and vegetable associations is not generally practiced, however. The perishable nature of the commodity makes storage for any considerable period impracticable, except for dried fruits, apples, potatoes, cabbage, and a few other products. Large quantities of these products are sold during the early part of the marketing season. Usually sufficient funds accumulate so that it is possible to make an early partial payment to members.

PRODUCTION CREDIT

Advances to members for the purpose of financing the production of a crop are not commonly made by fruit and vegetable associations. The Florida citrus growers have a loan corporation, affiliated with their cooperative marketing agency, that indorses growers' paper, under satisfactory conditions. Loans are usually made by local banks on the security of the loan corporation's indorsement. A few marketing associations perform a somewhat similar service for their members in exceptional cases.

Up to the present time, the fruit and vegetable associations, with the exception of associations that handle peanuts and potatoes, have been unable to store their products under the regulations of the United States warehouse act. The receipts of warehouses licensed and regulated under this act are, as a rule, more easily negotiable than those of unlicensed warehouses.

Successful cooperative associations, it is found, have not followed any one plan in financing their investments and operations. They have employed the means that appeared best suited to their particular needs, and have used conservatively and carefully the credit facilities offered them.

ACCOUNTING RECORDS

An important cause of business failures in recent years has been a lack of accurate and detailed information concerning the business. The only reliable source of information concerning business operations is the records kept of them, and the importance of proper records as an aid to successful management deserves more consideration than is ordinarily given the subject.

A recent study by the United States Department of Agriculture of the causes of failure among cooperative associations indicates that of 927 associations reported as failing or suspending operations in the 11-year period, 1913-1923, 114 or 12.3 per cent gave "inadequate accounting system" as the sole or one of the causes of their troubles, and 103 or 11.1 per cent, attributed all or part of their distress to "lack of proper audit." It would probably be more accurate to attribute the difficulties of these associations to poor management, or other causes, which an "inadequate accounting system," or "lack of a proper audit," kept hidden from the directors and members. But this only emphasizes the need of improvement in bookkeeping and accounting methods.

Efficient bookkeeping and accounting systems furnish the manager, and through him the board of directors, with accurate, detailed information regarding the operation of the association from a business standpoint. Likewise efficient accounting systems minimize errors and omissions, speed up transactions of business, provide records for future reference, and instill confidence among the members and the trade by promptness and accuracy in all transactions. Furthermore, with carefully kept records and frequent audits, the possibilities of actual dishonesty on the part of persons connected with the association are greatly minimized. The preparation of proper income-tax reports, cost statements of both production and marketing services, wage scales, and, in fact, the whole operation of the business demand accurate records. Such records uniformly kept from year to year furnish comparable material for judging the progress of the association.

Among fruit and vegetable associations considerable improvement in bookkeeping and accounting has occurred in the past few years. Increased volume of business has made possible the employment of more capable managers who have realized the necessity of accurate records, and the hiring of more capable employees.

ESSENTIAL RECORDS

Systems and forms of records in use by fruit and vegetable organizations differ in methods, elaborateness, and scope, with the size of the organization, the products handled, and the special needs and ideas of both the manager and the personnel in charge of the work. There are several so-called "standard" systems offered but most of these require changes, especially in the forms used, to render them adaptable to the needs of particular organizations. For that reason it is not proposed to offer any particular system, but rather to point out the essentials of any adequate system of accounting for fruit and vegetable cooperatives.

The general requirements of any organization may be divided into the following groups: Commodity records, general records, and statistical reports. These will be briefly described as to nature and sequence of use.

COMMODITY RECORDS AND FORMS

Commodity records and forms follow the product from receipt at the packing-house door to payment of the grower by check.

Specific entries are made to cover general commodity receipts and sales, membership accounts, and pooling accounts. Forms which record the necessary information may be listed as follows:

1. Delivery receipt.[8]
2. Grader's guiding tag.
3. Grading tally sheet.
4. Daily check into common and cold storage.
5. Commodity inventory.
6. Members' commodity ledger.
7. Pooling record.
8. Stock-record cards.

In addition the following sales forms:

9. Record of shipment.
10. Invoice for cash sales.[9]
11. Invoice for f. o. b. delivered or consigned sales.
12. Confirmation of sale.
13. Bill of lading.
14. Draft.
15. Car-delivery order.
16. Car envelope.
17. Manifest.
18. Car-pooling record.
19. Account sales.
20. Growers' check and stub.

The sequence of use is essentially as follows: Upon delivery of the product to the packing house of the organization the grower receives a delivery receipt. A copy of this receipt serves as a guide to the grader as the commodity passes through this operation. The results of grading, in quantities and sizes, are entered upon a tally sheet maintained for each variety and member. At the close of each day's operation these tally sheets are checked with the quantities on the floor, quantities shipped out or placed in common and cold storage. A daily check of commodities entering common and cold storage is kept.

Copies of the tally sheets proceed to the central office where entries are made in the members' commodity ledger and the commodity inventory. Entries are also made from copies of the daily check into cold and common storage upon the receipt side of stock-record cards. As cars are loaded at shipping points, records of shipment are made out and copies sent to the central office for information and reference. (This information has usually been received by telephone prior to this time.) At this point if the product is sold in carload or less than carload lots to local buyers, an invoice for a cash sale is made out. Copies of this sale reach the central office where entries are made upon the members' commodity ledger and the pooling record.

If the product is to be shipped, a shipping order is issued the railroad and a bill of lading is given the shipper. The bill of lading is transmitted to the central office. After the sale is made a confirmation of sale is often requested and a form is provided for this purpose. In many cases the bill of lading is not sent to the buyer, but an invoice of the shipment and a car-delivery order, with draft attached, are mailed to the buyer's bank. Upon arrival of the ship-

[8] Numbers 1 and 2 may be combined. [9] Numbers 10 and 11 may be combined.

ment the buyer pays the draft and receives either the bill of lading or the car-delivery order. The funds are then transferred to the bank of the central organization.

In the meantime a manifest of the shipment is made out as a permanent record of the shipment. In many organizations the manifest is combined with the car-pooling record. From the pooling records further entries such as prices, expenses, and allowances are entered upon the member's commodity ledger sheet. Each member's participation in each pool is thus shown and the amounts due growers are indicated. Whole or partial payments to growers are made by check, and account sales are rendered the member at the same time.

GENERAL RECORDS

The general records kept in efficient systems are usually the journals and the general ledger. In some cases the various journals have been combined into one, but the present tendency is to keep separate journals for each of several items such as purchases, labor records and pay roll, sales records, cash receipts and disbursements, and accounts receivable and accounts payable. Postings from each of these journals are made to the general ledger.

The general ledger is the book of accounts. After the transactions of the business have been recorded in the several journals, the resulting debit and credit items arising from such transactions are posted (or transferred) to the proper accounts in the general ledger. In this manner all the facts concerning the particular subject are collected under its name and can be viewed as a whole. Information concerning any particular portion of the business or the business as a whole can thus be obtained for use in the statistical reports.

STATISTICAL REPORTS

The greatest importance should be attached to the rendering of statistical reports. Such reports furnish to the manager and the board of directors the information necessary to the proper guidance of the business and furnish to the members the information necessary to promote confidence and loyalty. The reports should be as simple as possible so they can be thoroughly understood by the majority of the members.

Statistical reports include monthly or yearly reports, the reports of auditors and special reports covering particular phases of the business. Monthly reports are prepared primarily for the use of the manager and the board of directors. Annual reports, although of great importance to those responsible for the general policies, are nevertheless primarily important to the members, serving to provide them with information regarding their business. Reports of auditors usually made annually, but often more frequently, serve not only to check the records of the association but to instill confidence among members by furnishing a statement made by a disinterested party.

Special reports are used by managers to bring out the facts concerning some particular part of their business. Costs of operating local packing houses, cost of selling, advertising, and collections and

adjustments are subjects commonly undertaken in special studies and presented in special reports to the manager and board of directors.

COST OF RECORDS

Bookkeeping and accounting systems are often looked upon as necessary evils, the expense of which should be reduced in every way possible. This often results in the hiring of incompetent employees, or in the failure to employ sufficient help to handle the work properly. Although it is important to keep down overhead expense, the value of accurate records must not be overlooked. For that reason the employment of competent persons at reasonable salaries is at present considered necessary to the safety and successful operation of the business.

POOLING

Approximately three-fourths of the fruit and vegetable associations pool the returns received for shipments of the same variety and grade. Thus the producer instead of receiving the price at which his products are sold, less necessary expenses, gets the average net price received for all similar products shipped during the season, or some shorter period, generally determined by the directors of the association.

The first purpose of pooling is to equalize price fluctuations and prevent injustice to individual members. This is accomplished by spreading gains or losses over all the volume handled during any definite time, or pooling period. The entire burden, consequently, does not fall upon those whose products, perhaps unavoidably, have incurred losses. Likewise the profits of any particularly advantageous sales are spread over all the transactions, raising the general price to all the members.

Another pronounced advantage of pooling is that it enables shipments to be distributed throughout the season in accordance with market demands. The sales manager of the association can control the situation and no complaints regarding price inequalities will be received from members, since all receive the same basic price for products of the same kind and grade shipped during the pooling period. Not all shipments can be sold on the highest market, and the tendency of unorganized growers to hold for what they consider the most favorable market often defeats itself. Individuals may withhold shipments during a period of advancing prices, expecting the market to go higher. When prices decline it is seen that the peak of prices has been reached, and a rush of shipments to market may carry the decline to disastrous levels. This same tendency for the individual, rather than the trained salesman, to attempt to forecast market conditions, is present in associations that do not pool their shipments. It nullifies many of the advantages of organization.

METHODS OF POOLING

Pooling systems used by fruit and vegetable organizations differ considerably both in complexity and the length of time over which the pool extends. The simplest kind of pool could be used by an association handling one kind, variety, and grade of any product for

a single day in a local area. Pooling systems, therefore, tend to become more complex: (1) When several kinds of products are handled, (2) when there are several varieties of each product, (3) several grades of each variety, (4) several sizes of each grade, (5) when the length of pooling period is increased, and (6) when the territory over which the system operates is extended.

Many organizations are handling more than one commodity, each of which must be pooled separately. Practically all associations make separate pools of different varieties. Furthermore, associations further subdivide their pools into grades and in some cases into sizes. Fruit and vegetable associations differ considerably with regard to the length of the periods over which shipments are pooled. Reports have been received from 478 associations indicating their practice in this respect during 1922. Table 6 shows on a percentage basis the practice of these associations with respect to pooling.

As shown by Table 6, the number and percentage of associations using pooling periods of various duration differ to some extent with the type of commodity handled. With strawberries, for example, one-day pools were the most commonly used, whereas the three-day pools seemed to be in favor for watermelons. It is to be noted, however, that for all commodities as an average, and also in the majority of the commodity groups, seasonal pools were the most common in 1922.

PROBLEMS OF POOLING

In deciding upon a system of pooling, it is necessary to avoid any unfairness to growers who produce fruits or vegetables which are better than the average. It is unfair also that a few members should receive a price for inferior products which is based largely on the superior products of other members. Therefore, it is necessary to establish grade standards in order that each member may be paid in accordance with the quality of the products he delivers to the association.

It occasionally comes about, for various reasons, that returns for second-grade products shipped by an association are higher than those received for the first grade. For example, an association may sell its fancy Jonathan apples in November, storing the choice grade for sale in December and January. If the market advances in the meantime, the results will be unfavorable to the growers who produced the fancy grade, and the production of high-quality fruit will be discouraged to a greater or less degree.

To avoid this condition, certain associations have adopted a system of pooling known as "economic value pooling." Northwestern apple-marketing associations are particularly interested in this system. Returns for a certain commodity and variety, for example Jonathan apples, are averaged for all shipments and all grades. Then a series of differentials are set up in order to arrive at the price to be paid the growers for the fancy, No. 1, No. 2 and other grades. Several factors may be considered in arriving at these differentials: (1) An arbitrary differential, representing the opinion of the management as to the relative value of the various grades, (2) the returns received for different grades of the variety sold at the same time or on the same market and (3) the average returns

received throughout the season for each grade. The associations which have adopted this system of pooling consider it highly satisfactory. It is probably unnecessary for associations handling such products as peaches or watermelons, which move to market over a relatively short season, to adopt this system, but even for these products the principle involved is worthy of consideration.

Within any grades which it is practical to establish, there may be differences in quality which will add to or subtract from the market value of the product. If the pool covers a large area this difficulty is increased. Such factors as color, texture, flavor, and maturity may effect materially the market value of the same variety. It may be necessary, therefore, to establish regional pools, if differences in quality within the grade are constant factors. On the other hand, if the differences are due to weather conditions, or other fortuitous circumstances, which may be reversed the following year, it is often entirely satisfactory to permit products of varying quality to be sold in the same pool.

TABLE 6.—*Relative use of pooling periods of different durations made by 478 fruit and vegetable marketing associations, 1922*

Commodity groups	1 day	2 to 3 days	1 week	8 to 15 days	1 month	One-fourth of season	One-third of season	One-half of season	Season	Associations reporting
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Number*
Apples		2.6						10.2	87.2	39
Citrus fruit		.7	7.3	12.0	22.0	15.3	8.0	4.0	30.7	150
Grapes		35.7		7.1					57.2	14
Strawberries	59.2	7.4	7.4						26.0	27
Peaches			14.3	14.3					71.4	7
Cranberries			20.0						80.0	5
Miscellaneous fruits								25.0	75.0	4
Several fruits	11.2		12.5	2.5			1.3		72.5	80
Potatoes	14.6	12.5	29.2	8.3	10.4		4.2	2.1	18.8	48
Sweet potatoes			8.0		8.0		4.0		80.0	27
Watermelons		83.3		16.7						6
Onions			75.0						25.0	4
Miscellaneous vegetables	18.2		9.1	9.1	9.1				54.5	11
Several vegetables	33.3	4.2	20.8	4.2	4.2				33.3	24
Fruits and vegetables	21.9	6.3	15.6	3.1	18.7				34.4	32

Another factor is earliness of ripening which may mean that a certain area within the pool will ship several days ahead of other sections, and these shipments will be sold for the usual higher early-season prices. This situation can be adjusted by making an early pool to cover a brief period.

It is possible to err by making too careful distinctions of the quality of the products handled by an association. A pooling system which makes complicated records necessary is not advisable. Separation of the products into a large number of sorts may also make marketing difficult and result in lower prices, in the aggregate, than would have been obtained if a few standard grades constituted the basis for pooling. As an example, the efforts of a cooperative association in western New York to pack apples with a maximum variation of one-fourth inch in size has been found to be unprofitable. Although a premium was obtained for the larger sizes, the fact that the retailer usually wants two or three sizes in one barrel was a

handicap that made the average returns less than those received for apples packed "2½-inch and up."

The problem before each association is to develop a system, on the basis of its own conditions, which will be fair to and will protect all the members. It must at the same time be so simple that it can be put into operation easily and must not entail unduly complicated records.

MARKETING AGENCIES AND METHODS

The results of efficient cooperative marketing are good prices (taking into consideration market conditions), a low selling cost, and the maintenance of trade connections that will serve to strengthen the organization by creating a trade preference for its products. High prices mean little unless expenses are reasonable, and unless a satisfactory net price is returned to the producers. High prices during a single season mean little if they are obtained at the sacrifice of the organization's reputation for fair dealing. Inexperienced cooperative associations often overlook the fact that the middlemen who buy their products must make a profit if they are to remain in business. And it is vital to the welfare of the cooperative organizations that these firms should remain in business unless the cooperatives are prepared to furnish the same service.

One of the first requisites of successful selling, therefore, is to create confidence among the car-lot buyers in the integrity of the organization and the reliability of its products. This is not inconsistent with a proper regard on the part of the association for its own interests and the interests of its members. As might be expected, it is indicated that the organizations that maintained their own sales departments, or employed reliable sales agencies, were more successful than those whose sales were handled by the general manager, an officer or other individual. Definite data on this point are lacking, however, and many other factors, such as volume of business and general efficiency enter into the results.

There are, of course, cases where a director, the general manager, or some other individual, has been able to render very efficient sales service. But, in general, large organizations with a volume of business which commands the attention of the trade not only have an increased bargaining power but also are able to hire more capable men to handle their sales.

DISTRIBUTING AGENCIES

In marketing, distribution in its larger sense is the connecting link between production and consumption. Production is local in character, whereas consumption is general; production is seasonal, is in bulk, and is in raw form, while consumption demands more or less refined goods, in small quantities, and in many cases without relation to the producing season. It is the part of distribution to perform the services that arise in delivering produced goods to the consumers at the time, at the place, and in the form necessary to satisfy the demands. The wide area from which large cities draw supplies is indicated by Figure 5.

There are several distinct types of distributing agencies furnishing some part of the services necessary to market fruits and vegetables.

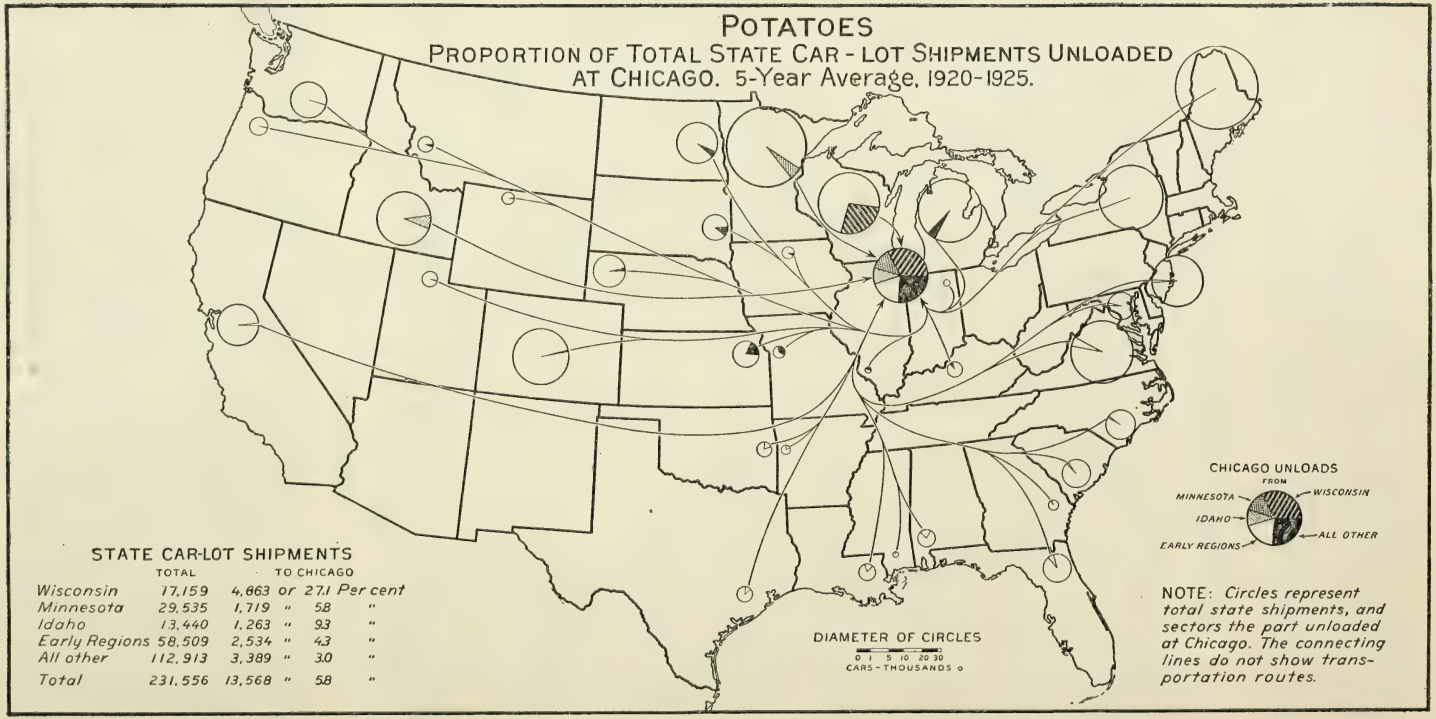
POTATOES
PROPORTION OF TOTAL STATE CAR-LOT SHIPMENTS UNLOADED AT CHICAGO. 5-Year Average, 1920-1925.
STATE CAR-LOT SHIPMENTS
TOTAL
TO CHICAGO
Wisconsin 17,159 4,663 or 27.1 Per cent
Minnesota 29,535 1,719 " 5.8 "
Idaho 13,440 1,263 " 9.3 "
Early Regions 58,509 2,534 " 4.3 "
All other 112,913 3,389 " 3.0 "
Total 231,556 13,568 " 5.8 "
DIAMETER OF CIRCLES
0 1 5 10 20 30
CARS-THOUSANDS o
CHICAGO UNLOADS
FROM
MINNESOTA
WISCONSIN
IDAHO
ALL OTHER
EARLY REGIONS
NOTE: Circles represent total state shipments, and sectors the part unloaded at Chicago. The connecting lines do not show transportation routes.

FIG. 5.—Cooperative associations and other shippers in over 40 States supplied Chicago with potatoes in 1924

Their location, the services rendered, and the basis on which a charge is fixed for these services are shown in Table 7.

TABLE 7.—*Types of fruit and vegetable distributing agencies*

Type of agency	Location	Service performed	Remuneration
Cooperative sales agency	Shipping point	Selling agents	Cost of service.
Noncooperative sales agency	do	do	Fixed brokerage.
Cash buyers	do	Buy for resale	Market spread.
Buying brokers	do	Buying agents	Fixed brokerage.
Selling brokers	All car-lot markets	Selling agents	Do.
Commission merchants	All wholesale markets	do	Fixed percentage.
Fruit and produce auctions	Large markets	do	Do.
F. o. b. auctions	do	do	Do.
Receivers and jobbers	All wholesale markets	Buy for resale	Market spread.
Retailers	All retail markets	do	Do.

SALES AGENCIES

Cooperative sales agencies may be local, regional, or national from the standpoint of either the producing area or the consuming area served. In addition, they may be operated by and for one particular section and commodity or may serve many organizations, many consuming centers, and handle many kinds of products. For example, the production area served and the products handled by the sales department of the California Fruit Growers' Exchange are limited, but the consuming area served is international. Another example is the Federated Fruit and Vegetable Growers, Inc., an organization that serves many producing areas, handles many kinds of products, and maintains market agents in many consuming centers.

Cooperative sales agencies selling fruits and vegetables for cooperative associations, generally maintain offices at some central point in the producing area. They sell through their own agents in the markets, or through brokers or other types of agencies. Their charges are based on the cost of operation, but are collected generally as a fixed charge per package or per car and any excess refunded later. Noncooperative sales agencies are private sales organizations operating on a per package or per car charge stipulated in a contract with the organization served. In operation, they differ little from cooperative sales agencies.

Both noncooperative and cooperative sales agencies sell either through their own agents, or brokers, usually in carload lots, to wholesale receivers and large jobbers. They may also sell to large retailers, such as the chain-store system. Their sales, as a rule, are made on wire quotations from the shipping point, and either as f. o. b. or delivered sales. A portion of their supplies may be sold through the terminal fruit and produce auctions in the markets in which these auctions are located.

BUYERS AND BUYING BROKERS

The cash buyer purchases products prior to shipment, and often harvests, assembles, grades, and packs the products and supervises the loading. He may operate for his own account, or on a joint account agreement with a large distributing firm, or a receiver in the market, or he may be the salaried representative of such firms or receivers. Though cash buyers are to be found at most shipping

points, the producing and consuming areas served by each are rather limited—often a cash buyer handles but one product, and uses a limited number of markets.

The buying broker operates much like the cash buyer, except that he does not buy for his own account but acts as the agent of the purchaser. Generally the buying broker handles only car-lot quantities which he inspects, purchases, and ships in accordance with his principal's instructions. His compensation is an agreed brokerage charge.

TERMINAL AGENCIES

Brokers located in the terminal car-lot markets are the agents of the sellers. A broker receives quotations, presents the seller's offerings and terms to the buyers, and reports the buyers' acceptance, or their counter offers to the shippers for confirmation or rejection. If the sale is confirmed, the broker's responsibility is at an end when he reports the shipper's confirmation to the buyer. The shipper assumes the financial risk and the task of collecting the proceeds of the sale from the buyer. The broker's compensation is generally a stated charge per car which varies somewhat for different commodities.

Another agency of distribution is the fruit and produce auction. One or more auctions are located in Baltimore, Boston, Chicago, Cincinnati, Cleveland, Detroit, Minneapolis, Newark, New Orleans, New York, Philadelphia, Pittsburgh, St. Louis, and St. Paul. They receive shipments on consignment and place samples of such shipments on display in the warehouses. Shipments are listed and described as to quantities, grades, condition, variety, and other factors necessary to establish value, in catalogues circulated prior to the sale. At the call, the lots of fruit and produce are sold to the highest bidder. A fixed percentage charge, plus the freight, is deducted and the balance is remitted to the shipper, or his agent. Jobbers, retailers, hucksters, hotel supply agencies, and other less-than-car-lot buyers purchasing fairly large quantities, patronize the auctions. Sales to out-of-town buyers are limited.

The f. o. b. auction is national in character, maintaining a central office with branches or salesrooms in several of the larger cities. Shipments at shipping point, or en route, that have been inspected at point of origin by Federal agents are listed for sale. Such listings are made by telegraph to each auction salesroom. At call, the buyers assemble at each of the auction rooms and make bids on the lots in which they are interested. These bids are transmitted by telegraph to the central auction office, and to all other auction rooms, so that bidders may know what other bids have been made. The auctioneer who conducts the sale is located in the central office. He sells the shipment to the highest bidder in any market, at a certain price f. o. b. shipping point. The purchaser pays the branch house of the auction located in his market, and the money is remitted through the central office to the shipper.

Commission merchants are to be found in nearly all wholesale markets. They are receivers of car-lot, or often less than car-lot shipments consigned to them by growers, growers' associations, or other marketing agencies. They dispose of these shipments in com-

paratively small lots to jobbers, retailers, and other buyers. Their sales are usually made from their stores in the wholesale produce district, but may be made directly from the cars in the railroad yards.

Commission merchants, as a rule, handle a wide variety of fruit and vegetable products. Many commission merchants also operate, at times or continually, as jobbers or receivers, buying shipments for resale. In fact, there is no sharp division of functions between the various distributing agencies.

The concerns generally described as " receivers " or " car-lot wholesalers " perform practically the same functions as the group generally described as jobbers. Receivers, however, usually buy carload lots, whereas jobbers may not. Receivers may resell in carload lots, but jobbers sell relatively small lots. The chief distinction appears to be the volume of business handled. The consuming territory which they serve may be one city, or a part of a city, or may extend over a territory including several cities or towns.

Receivers and jobbers differ from commission merchants in that they buy products for resale. From the point of view of distribution, their functions are much the same as those of the commission merchants.

RETAILERS

Retailers include chain stores, local unit grocery stores, markets, fruit stores, hucksters, push cart venders, and to some extent, department stores, and " 5 and 10-cent " stores. They buy occasionally in car lots, but usually in less than car lots, and resell in quantities purchased by the average family. The cost of retailing fruits and vegetables exceeds the total cost of all other marketing agencies and operations. Studies of the retail margins for oranges in a number of markets for the years 1917 to 1921, show that the retailer received as an average $1.88 for each box of oranges which he handled, compared with $1.25 for all other packing and marketing services, $1.22 for transportation, and $2.78 received by the producer.

A large part of the retail margin retained for fruits and vegetables is due to the high cost of selling and delivering small quantities to a large number of customers; a part is due to the perishability of the product. This can be overcome to some extent by the adoption of standard grades and more careful packing and handling methods by the growers and their associations. Some large organizations are actively engaged in campaigns to demonstrate to the retailer that it is relatively more profitable for him to handle a larger volume at a smaller margin. It is probably true that the consumption of fruits and vegetables may be further stimulated in this way.

METHODS OF SALE

Fruit and vegetable organizations may make track sales, f. o. b. sales, delivered sales, or consignment sales. Some confusion and misunderstanding exists among shippers and buyers as to the meaning and conditions of each of these methods.

Track sales are sales wherein the terms and conditions of the sale are completed after an inspection of the shipment by the buyer. Such sales, therefore, may be made at either the shipping point or at destination. The buyer pays the seller or his agent directly.

Rules governing destination track sales, agreed to by a number of organizations representing shippers and the wholesale trade, read in part as follows:[10]

When a commodity is sold on track after arrival at destination, the buyer shall be considered to have waived any right to reject the commodity so purchased upon receipt by him or his duly authorized representative, from the seller or his duly authorized representative, of the bill of lading, delivery order, or other document enabling him to get the goods from the carrier.

The foregoing shall not be construed as depriving the buyer of a right to reparation when the unloading of the car shall demonstrate that a part of the lading which was not accessible to inspection was of a quality or condition much inferior to that portion which was accessible to inspection; but any such claim for reparation must be made within 24 hours after receipt of delivery order or bill of lading.

An f. o. b. sale may be made of carloads of fruits or vegetables ready for shipment at the seller's station, of products to be loaded at a specified future date, or of cars which are already en route to market. The f. o. b. method of sale is defined as follows:[11]

F. o. b. sales, or quotations, means that the commodity quoted or sold is to be placed free on board the car, or at ship side at shipping point, in suitable shipping condition, and that the buyer assumes all risks of damage in transit not caused by the shipper, whether there is a bill of lading to the order of shipper or not.

A draft, usually payable on the arrival of the shipment, is drawn by the seller upon the buyer, and is sent, together with the bill of lading, or a car-delivery order, to the buyer's bank. Upon payment of the draft the bill of lading, or car-delivery order, is turned over to the buyer. If the sale is made "f. o. b. usual terms," inspection by the buyer is permitted prior to payment of the draft, but the privilege of inspection does not influence the stated terms or conditions of the sale. But if the terms and conditions of the sale have not been complied with by the shipper, or if the product is not of the grade or quality ordered, the buyer may refuse to accept the shipment, or may ask for an allowance consistent with the difference between the value of the product ordered by him and of that he has actually received.

Sales of fruits and vegetables by the f. o. b. method have increased until at the present time a large portion is sold in this way, but the system is as yet not thoroughly understood, and misunderstandings often arise. Rejections of shipments sold f. o. b. have greatly increased in the past two seasons.

A third method of sale is the "delivered sale." The following definition of a delivered sale has been accepted by trade organizations:[12]

Delivered sales or quotations mean that the commodity quoted or sold is to be delivered by the seller on board the car, or on dock if delivered by boat, free of any and all charges for transportation or protective services, at the market in which the buyer is located, or at such other market as agreed upon, the seller assuming all risks of damage in transit not caused by the buyer.

This method of sale has been in use for some time. A considerable portion of the California citrus and deciduous shipments is also sold on a delivered basis.

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[10] Standard rules and definitions of trade terms, 1924.
[11] See footnote 10.
[12] See footnote 10.

When a car is sold delivered, a draft, covering the price agreed upon, usually accompanies the bill of lading, or payment is made to the shipper's agent. Inspection is allowed, as in the case of f. o. b. sales. If the shipper fails to comply with the terms of the sale, the buyer may reject the shipment.

Many organizations continually offer a portion of their best products for sale through the auctions in the belief that the publicity attending this method of sale creates a favorable impression among the trade toward a shipper who offers high-grade products that sell near the top of the market. Auction prices in a measure set the price for similar commodities sold at private sale in the same market, and, to a less degree, in other markets. On the other hand, many shipments that show decay and deterioration are sold at auction because they can be most quickly disposed of by this method.

The consignment of shipments to commission merchants was formerly one of the most common methods of marketing fruits and vegetables. At the present time, also, some small cooperative organizations find it a satisfactory method of disposing of their shipments. Returns are made to the shipper when the shipment is sold. The commission merchant, however, frequently agrees to accept the shipper's draft for a part of the estimated value of the shipment.

With the development of cooperative sales agencies, and other large distributing firms, the consignment of fruit and vegetable shipments has declined. The direct sale of shipments, either the f. o. b. or delivered, is now the standard method of marketing fruits and vegetables. The advantages of this method are that it permits the organization to influence the distribution of the shipments and the price at which they sell.

Cooperative associations marketing fruits and vegetables employ practically all types of distributing agencies. Reports from 513 associations show that more than half deal directly with commission merchants, auctions, or brokers, and about 45 per cent employ cooperative sales agencies.

ADJUSTMENTS AND REJECTIONS

Reports from many fruit and vegetable organizations indicate that the number of rejections and claims to be handled are increasing. In part, this condition can be attributed to the fact that buyers and shippers do not fully understand the conditions of the methods of sale used, to lax methods of grading and inspection on the part of cooperative organizations, to the tendency of some buyers to attempt to find something wrong with shipments when the market is declining, and perhaps to the fact that many sellers do not hold buyers strictly to the terms of the sales contract, because of the fear of losing their further trade.

There is no specific remedy for the situation, but there are steps that can be taken to reduce rejections to a minimum. Buyers and sellers should understand clearly their rights and obligations under each method of sale. The following rules regarding rejections have been accepted generally by organizations of produce dealers.[13]

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[13] See footnote 10.

The buyer shall not unjustifiably reject fresh fruits or vegetables. Delay in transit shall not of itself justify rejection unless a specific delivery date has been contracted for.

The buyer shall notify the seller by wire where possible, or notify the seller's local representative, within 24 hours after shipment has been placed where inspection is practicable, of refusal to accept a shipment or intent to file claim and give reasons therefor (other than claim against the transportation company). Failure of such notice shall constitute acceptance; except that it shall be proper to determine (as may be customary) shortage, waste, etc., of particular commodities subsequent to unloading, and failure to notify the seller or his representative, shall not in such circumstances serve as a waiver of the buyer's right to file such proper claim. The buyer shall, however, be required to notify immediately the seller or the seller's representative of any condition which may cause unusual or excessive waste or shrinkage, and shall unload the goods promptly in order to minimize such waste or shrinkage. In the case of claims against shippers for failure to comply with the terms of contract of sale as to grade, pack or condition, or involving excessive shrinkage and waste, the buyer shall provide the seller with such records and competent testimony as will serve to substantiate his claim. If the seller does not allow the claim he shall promptly notify the buyer, stating his reasons for declining the claim.

Except as may be required for the proper inspection of the lading at the car, the removal of the goods from the car by the consignee shall constitute acceptance. In event that false or fraudulent loading or packing shall develop during the process of unloading, the buyer shall immediately so notify (by wire if possible) the seller or his agent. Acceptance of goods under such conditions shall not serve as a bar to recovery under breach of contract.

The shipment of products of uniform grade and quality is the most important step a shipper can take to prevent rejections. Under these conditions, the shipper is able to take a firm stand in the event a shipment is rejected unjustifiably. An organization whose shipments are uniformly satisfactory attracts the attention of the best class of buyers, and is generally in a position to refuse to deal with buyers who fail to meet their obligations.

The handling of rejections is one of the most difficult tasks confronting a sales manager. It calls for a combination of tact and firmness. It is necessary, first of all, that the rights of the members of the association be protected. The experienced sales manager, however, will not assume an arbitrary attitude, but will give consideration to the complaints of his customer and decide on the basis of the evidence presented the extent to which they are justified. Once having taken a position in the matter the sales manager should be prepared to maintain it unless new facts are brought to his attention.

In handling adjustments and rejections, it is desirable to have a report on the condition of the shipment made by a disinterested agency. For many years, such a service has been offered in the larger markets by private agencies. During recent years cooperative associations and other shippers have depended largely upon the inspection service furnished by the United States Department of Agriculture.

ADVERTISING

In 1922, 218 fruit and vegetable associations reported that they employed advertising of some sort. Of the total number advertising, 80 stated the amount spent. These figures showed a total of $4,343,909. Of this total seven large organizations spent $4,018,034.

Advertising to the trade and to the consumer are distinct types of advertising employed by cooperative associations. Both aim to

accomplish the same ultimate end, that is, a stimulated demand for the product advertised, but the methods used and the results obtained vary considerably.

Advertising to attract the attention of distributing agencies is conducted by mailed circulars, by price quotations, or by advertisements in the regular trade papers. Circulars mailed to that portion of the trade that is interested in fruits and vegetables and the publication of price quotations are used by a large number of organizations. The trade papers have been used extensively by cooperative organizations.

Many cooperatives with products that lend themselves to consumer advertising are directing their advertising at the consumer to obtain the best results. Various schemes have been used to bring their products to the direct attention of the public. These methods include newspaper and magazine advertising, special campaigns, and retail dealer services.

Such products as Sunkist oranges, Sun-Maid raisins, Eatmor cranberries, and many others have become familiar to the public through advertisements. It has cost the organizations behind these advertisements many thousands of dollars to do this, but the organizations believe that the expenditures have been well justified. Very few small organizations, however, have been able to spend the amounts necessary to make consumer advertising a profitable investment. Special campaigns are also employed to stimulate the consumption of a certain grade or size of product. For instance, a large part of a season's fruit crop may be unusually small or unusually large. Unless a larger demand for these unusual sizes is created a large bulk of the tonnage would remain unsold. Special inducements are offered to consumers, retailers, and all classes of trade to use the products to be moved. New uses are advocated, and in some cases by-products such as fruit juices, jams, and jellies have been developed to relieve the surplus.

A few larger organizations stimulate consumption by service to retail dealers. Agents of the association assist the dealer to arrange attractive displays of the association's products. They often help in working up advertising matter and in planning posters. In some cases, especially during sales campaigns, association agents have assisted in selling the products. Such methods have resulted generally in increased consumption, lower retail handling charges, and generally better cooperation with the retail trade.

It must be remembered, however, that accompanying all successful advertising are certain fundamental elements which must be considered. These elements are a product of uniform quality and grade, a brand or trade-mark that will identify the product, a steady supply of products during the normal consuming season, attractive advertising material, and cooperation with all marketing agencies that handle the product.

A uniform, dependable product is fundamental in successful advertising. Display, poster, and other advertising matter may create a preference for a certain product or a certain brand, but the preference quickly disappears if the product does not possess satisfactory quality. It is important also that a supply of the product shall be on sale at retail stores in the district covered by the advertising

campaign. The effect of advertising is quickly dissipated if the consumer is unable to procure the product in question when he asks for it.

An organization that advertises its products to the consumer assumes the responsibility of maintaining satisfactory quality, an adequate supply, and fair prices.

RELATION OF PRODUCTION TO COOPERATIVE MARKETING

In the five years, 1920–1924, shipments of fruits and melons increased 31.7 per cent from 346,369 cars to 456,469 cars; shipments of vegetables increased during the same period 41 per cent from 345,572 cars to 487,238 cars. The population of the United States during the same period increased approximately 8 per cent. In other words, shipments increased over four times as rapidly as population. (See Table 2.) Consequently, there has been an increase in the per capita consumption of fruits and vegetables, but in obtaining this increase the growers have been obliged to make concessions in price. It may be possible to increase further the per capita consumption of fruits and vegetables, but this opportunity is limited, if returns to the growers are to be brought in line with prices of other commodities. Efforts in this direction are handicapped also by high transportation charges, terminal costs, and wholesale and retail margins which make the retail price of most fruits and vegetables appear excessively high to city consumers. These margins will be high so long as the consumer demands the present service.

Some economies may be effected in the performance of marketing services, but the opportunities at present price levels for reducing the cost of the physical handling of the product are small. The shipper of western boxed apples, as an example, deals in car-lot units containing 750 boxes. The average consumer buys approximately 6 to 8 per cent of the contents of one box at one time, or one one-hundredth of 1 per cent of the car-lot unit. In other words, the original car lot may be sold to the consumers in more than 10,000 units of approximately 3 pounds each. This conveys some idea of the services and the actual handling of the product necessary to dispose of a carload of apples to the ultimate consumer. An analysis of marketing costs for northwestern apples in 1922–23 showed a combined retail and jobbing margin of approximately 47 cents of every dollar spent by the New York consumer.[14]

Considering fruits and vegetables, as a whole, it seems probable that the price is influenced chiefly by the available supply. This may not be true of a particular fruit or vegetable. Returns to apple growers, for example, have no doubt been depressed in part because of the tendency of the consumers to substitute oranges and other fruits when the prices of these competing fruits are comparable with those of apples. The use of grapefruit, strawberries, and cantaloupes as breakfast fruits has increased, and these products tend to compete with apples, as well as with each other. The demand for a favorite fruit may be a greater factor than the supply in affecting the price of the products mentioned. Or the increased use

[14] Some facts about margins and costs in marketing fruits and vegetables in the port of New York district, the Port of New York Authority cooperating with the United States Department of Agriculture, April, 1925.

of orange juice at breakfast may depress the price of all of them and result in increased returns to the orange growers.

As is shown in Table 2, however, the production of all fruits and vegetables has been increasing steadily. Until the summer of 1925 the price level of these products, as compared with the pre-war period, was below the general price level. (See Table 1.) Increases in the returns received for fruits and vegetables depend on: (1) More economical production and marketing, (2) closer adjustment of the supply to demand, and (3) stimulation of the demand by advertising, better distribution and other means, by developing new markets and new uses for the product, or by manufacturing inferior grades into by-products.

The demand for fruits and vegetables is influenced by: (1) The total number of potential buyers, (2) the purchasing power of these buyers, and (3) the usefulness or desirability of fruits and vegetables as compared with other commodities which the consumers need or wish.

In general, it must be admitted that an increased consumption of fruits and vegetables results in a decrease in the use of other food products. The average person, perhaps, might eat another apple or another orange each day and still consume the same quantity of other foods as previously. It is more likely that he would eat correspondingly less of meat, or bread, or other fruits. Normally, an increase in the total consumption of fruits and vegetables would follow the increase in the total population. As has been shown, the percentage of increase in population since 1920 is less than one-third the increase in shipments of fruits and vegetables.

Fruits and vegetables, however, have qualities which make their increased use in the diet desirable. This makes it possible for the producers and their cooperative associations to stimulate the demand for these products and increase the per capita consumption. Considerable progress has been made in this direction and undoubtedly the limit has not been reached. In fact, efforts of this kind have been confined to a few fruits, notably oranges and raisins.

The consumption of a certain product may be increased by demand stimulation, by enhancing its desirability, or by acquainting prospective customers with its desirable features. Growers are urged to produce varieties of fruits or vegetables which best meet the consumer's desires and favor. Standardization of grades, better methods of packaging, storage, transportation, and refrigeration are all efforts to make the product more desirable to the consumer and consequently to stimulate demand. These are all desirable activities, but it is necessary to appreciate that demand and consumption can be expanded only within relatively narrow limits and that each commodity comes into competition with other products. It must be appreciated also that demand created in this way is not necessarily permanent. The activities that created the demand must be continued to maintain it.

The fruit and vegetable growers may find buyers outside the United States. The extent to which foreign countries have afforded a market for American fruits is shown by Table 8 which gives the exports of the principal fruits for the years 1922 to 1924.

TABLE 8.—*Exports of principal fruits by countries of destination, years ended June 30, 1922 to 1924*[1]

Article and country to which exported	1922	1923	1924
APPLES:	*Boxes*	*Boxes*	*Boxes*
Argentina	4,200	60,777	86,716
Brazil	8,280	39,550	84,543
Canada	264,677	347,919	645,817
Cuba	10,365	49,973	85,425
Denmark	23,587	21,969	118,238
Germany	2	14,483	476,633
Mexico	26,011	103,824	126,223
Norway	57,534	128,537	175,862
Sweden	33,399	25,254	179,274
United Kingdom	939,675	2,503,633	3,661,826
Other countries	27,204	195,325	557,642
Total	1,394,934	3,491,244	6,198,199
APPLES:	*Barrels*	*Barrels*	*Barrels*
Argentina	7,857	13,083	26,794
Brazil	6,774	1,602	232
Canada	44,824	47,005	45,459
Cuba	20,523	20,156	24,537
Denmark	9,031	7	26,428
Germany	74	18	42,568
Mexico	20,983	4,414	1,749
Norway	27,839	13,261	30,244
Sweden	2,803	1,180	78,768
United Kingdom	458,227	480,437	1,734,786
Other countries	30,246	11,418	20,676
Total	629,181	592,581	2,032,241
ORANGES:	*Boxes*	*Boxes*	*Boxes*
Canada	1,531,364	1,674,106	2,334,329
United Kingdom	17,515	27,572	80,074
Other countries	91,959	97,535	177,405
Total	1,640,838	1,799,213	2,591,808
GRAPEFRUIT:	*Boxes*	*Boxes*	*Boxes*
Canada	[2] 129,021	235,800	254,308
United Kingdom	7,546	7,771	36,088
Bermuda	947	1,386	1,517
China	613	962	1,999
New Zealand	495	525	1,088
Philippine Islands	371	1,723	1,307
Newfoundland and Labrador	324	1,152	2,526
France	121	232	911
Germany	25	59	52
Other countries	766	2,524	4,724
Total	140,229	252,134	305,210
PRUNES:	*Pounds*	*Pounds*	*Pounds*
Belgium	3,945,320	2,515,887	3,522,493
Canada	14,253,357	13,951,017	15,209,349
Denmark	4,133,187	2,003,032	2,935,746
France	25,063,197	26,586,389	3,694,496
Germany	16,669,695	263,056	51,125,557
Mexico	700,885	1,029,352	812,708
Netherlands	4,441,902	1,771,449	12,015,176
New Zealand	1,204,320	1,520,060	1,428,849
Norway	563,781	742,431	1,233,414
Sweden	5,489,977	4,864,105	7,047,009
United Kingdom	29,561,264	18,905,239	30,160,616
Other countries	3,371,248	5,076,736	7,263,072
Total	109,398,133	79,228,753	136,448,485
RAISINS:			
Canada	27,365,345	30,764,423	34,093,277
China	163,601	1,320,312	4,962,689
Denmark	191,786	2,774,732	4,705,554
Japan	2,722,984	4,632,227	7,695,360
Mexico	773,421	1,254,672	1,586,697
Netherlands	477,100	6,546,300	4,107,251
New Zealand	2,086,978	5,062,815	4,079,832
United Kingdom	14,447,997	37,411,094	20,607,010
Other countries	1,409,812	4,195,787	6,313,974
Total	49,639,114	93,962,362	88,151,644

[1] From the Division of Statistical and Historical Research, Bureau of Agricultural Economics.

[2] Jan. 1 to June 30 not separately classified prior to Jan. 1, 1922.

Except possibly for a few specialties, like raisins, prunes, and grapefruit, the possibility of increasing European demand for American fruits and vegetables appears to be limited. Canada, however, is an important market for many crops. Several national sales agencies have representatives in the more important Canadian cities, and there is some evidence that the per capita consumption of fruits and vegetables in Canada is about the same as in the United States. The opportunity for increasing consumption of fruits and vegetables is, therefore, no greater in Canada than in the United States.

The cooperative associations may also increase the consumption of fruits and vegetables by promoting new uses or new outlets for the product. One of the most striking examples of this is the popularity of raisin bread which was stimulated by the raisin growers' organization and provided an outlet for many tons of California raisins. The California Fruit Growers' Exchange states that an orange-juice extractor, manufactured by a subsidiary of the exchange, now provides a profitable outlet for over 2,500 cars of oranges each year. These oranges are consumed as orange juice which does not compete directly with fruits and vegetables, but with various drinks dispensed at soda fountains.

The manufacture of low-grade fruits and vegetables into by-products opens up new outlets for these grades. What is more important the better grades no longer have to compete with inferior products. The difficulty in by-product manufacture has been to discover methods whereby cull products can be utilized profitably. The fruit and vegetable organizations should be interested in developing research work in this field.

CHANGES IN THE SUPPLY

Changes in the supply of fruits and vegetables tend to be made at the present time on the basis of the prices of past seasons, and usually fail to take into consideration the probable conditions during the period when the crops must be marketed. Changes in acreage of particular crops do not always reflect price changes, however, because it is not always possible to make readjustments in production practices even when a crop has been unprofitable for one or more years. Though production may increase rapidly in response to the stimulus of high prices, a year of low prices may not bring about a corresponding reduction in production. Furthermore, fruit trees and vines do not produce a commercial crop until from 3 to 10 years after they are planted. Consequently, the bearing acreage of this season has been determined several years previously. Adjustments in production are slow and difficult.

Over a long period, however, no grower will continue to produce crops that fail to bring him cost of production. Many growers abandon their orchards or truck fields under unfavorable market conditions. Others neglect fertilization, cultivation, spraying, and pruning because they can not afford to spend money to produce an unprofitable crop. As a result there are swings from periods of overproduction and low prices to periods of underproduction and high prices. Such swings, in one direction or the other, may occur without noteworthy changes in demand. This problem points to the

necessity on the part of the growers and their cooperative organizations to attempt to anticipate future conditions in view of trends instead of being guided solely by conditions that have passed.

Attempts to adjust the supply which result in alternating cycles of increased and reduced production are wasteful from the point of view of both the producer and the consumer. Both classes are interested in stabilized production. The supply should be adequate for the needs of the market, but not in excess of those needs. If supplies are greatly in excess of market requirement, prices to the producers are disastrously low, quantities of products are left to rot in the fields, orchards, or warehouses. These conditions in production usually result in unstable market conditions which in turn tend to restrict consumption.

The advantages the consumer receives from buying fruits and vegetables at a comparatively low price are offset by unduly high prices during subsequent years of reduced production. In fact, since retail prices change more slowly than wholesale prices the consumer does not receive the full benefit of the low prices resulting from overproduction. The grower suffers, first, from unduly low prices during the period of abundant production, and, second, from an actual restriction of consumption, caused by fluctuating prices, unstable market conditions and, in the second phase of the cycle, inadequate or uncertain supplies.

Much has been written regarding the stabilization of distribution. It seldom has been realized that this must include stabilization of production. In so far as the supply of fruits and vegetables can be adjusted to conform to the normal demands of the market, both the producers and consumers will benefit. Some of the greatest possibilities for cooperative associations lie in adjusting production practices the better to fit market requirements.

FUNCTIONS OF THE COOPERATIVE ASSOCIATIONS

Up to the present time the efforts of the fruit and vegetable marketing organizations have been devoted mainly to preparing for market and selling the products of their members. Many cooperative associations have introduced definite savings and have brought about improvements in the grade and pack of fruit and vegetable products.

The question of the stabilization of production has not been met except incidentally. The Fruit Growers' Supply Co., the purchasing organization of the cooperative associations affiliated with the California Fruit Growers' Exchange, has maintained a bud-supply department. By furnishing the growers with buds from citrus trees of known productivity which bear fruit of good quality, it has been instrumental in improving the marketing qualities of California oranges and lemons. Some associations are concerned with questions of fertilization, cultivation, and pruning with the avowed purpose of establishing approved methods and raising the quality of the fruit or vegetables placed on the market.

This, however, is but one phase of the problem. Partly because of the successful merchandising and advertising program of the California Fruit Growers' Exchange, as one example, the produc-

tion of citrus fruits in California has increased enormously. Marketing the crop at a profit to growers has become progressively difficult. Comparable increases are apparent in almost every fruit and vegetable crop. (See Table 2.)

If production is outstripping market requirements, the necessary adjustments will be made in time even without conscious planning on the part of the organized growers. Such adjustments have been attended in the past by financial distress to a large number of producers extending over several years. If the growers, through their cooperative associations, are able to modify the conditions that make necessary the abandonment of orchards and truck fields and the neglect of those which are kept in tillage, they will perform a service at least equal in value to the improvements they may be able to make in the distribution of the crops once they are produced.

Stabilization of production in the fruit and vegetable industries is confessedly difficult. It is difficult to correlate the production plans of a large number of growers; weather conditions affecting yields may upset the most carefully made calculations. Nothing can be accomplished unless the growers cooperate for the purpose of marketing their products. Then, having demonstrated their ability to work together and to conduct a marketing business, they may hope to bring about a degree of correlation between production and demand that does not exist at the present time.

The information the associations require for such a program is being collected in part by the United States Department of Agriculture and other agencies. As the need for supplemental information becomes apparent it can be collected, in most instances, by these same agencies.

The basic information necessary are acreages and yields of the crops handled by each association and of competing crops not only in the United States but from countries selling in the same markets. A knowledge of prices over long periods is necessary. Not only is it necessary to have historical information regarding yields and prices but it is necessary to use these and further data as a basis to forecast future trends. The crop forecasts of the Department of Agriculture give in advance estimates of the current crop. Acreages of nonbearing fruits show the trend in the production of these crops. Agricultural outlook and "intentions to plant" reports issued by the department in the spring of each year are also available.

General economic conditions are important as an index of the probable purchasing power of the consumer. All this statistical information must be interpreted and made available to the growers by the cooperative association. Such a program on the part of even a few of the cooperative associations marketing fruits and vegetables would do much to make clear to producers the close relationship which must exist between production and marketing.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

June 21, 1926

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